43rd Annual Report

FY 2014–15

Protection and Augmentation of Water Supplies

February 2014

Santa Clara Valley Water District

5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Our mission is to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.

Santa Clara Valley Water District

February 21, 2014

Dear water district stakeholder:

The Santa Clara Valley Water District has released its 43rd Annual Report on the **Protection and Augmentation of Water Supplies**, which documents the water district's efforts to ensure a reliable water supply for Santa Clara County. The report presents the basis for the recommended groundwater production charges for fiscal year (FY) 2014-15 and is posted on our website, www.valleywater.org.

To provide transparent information, the report is published and filed prior to the water district holding public hearings on the groundwater production charges. Groundwater replenished by the water district makes up, on average, two-thirds of the groundwater used by residents, businesses and municipal and retail water providers countywide.

With revenue from groundwater production charges, the water district protects and augments water supplies for the health, welfare and safety of the community. The activities, programs and services undertaken with funding from groundwater production charges includes:

Water supplies

- Operate and maintain local reservoirs to capture water and fill recharge ponds to replenish the groundwater basin
- Purchase imported water to replenish the groundwater basin

Water quality

- Monitor and protect groundwater from pollutants
- Ensure proper construction and destruction of wells to prevent contaminants from infiltrating the groundwater basin

Infrastructure

- Plan, construct and retrofit infrastructure such as dams, pipelines, ponds and pump stations to help sustain the groundwater table
- Operate and maintain pipelines and pumping plants to help sustain the groundwater table

The water district is proposing rate increases in its two groundwater charge zones for FY 2014-15 as follows:

North County Zone W-2 Municipal and Industrial up to 9.9%, average household increase of $2.31 per month
South County Zone W-5 Municipal and Industrial up to 4.6%, average household increase of $0.48 per month
Surface water users in North County up to 10.1%, average household increase of $2.42 per month
Surface water users in South County up to 5.4%, average household increase of $0.60 per month
Ag groundwater users in either zone up to 4.6%, or about $0.14 per month per acre
Ag surface water users in either zone up to 12.3%, or about $0.69 per month per acre

The Santa Clara Valley Water District is increasing rates in order to significantly invest in several key areas to help ensure a reliable supply of clean water for Silicon Valley's present and future economic, environmental and social well being. The increase will bring in the revenue to cover rising operating costs and to pay for critical investments in the water supply infrastructure, imported water supply reliability and for future supplies. The water district has minimized the proposed increase by several years of cost cutting, including the elimination of 122 positions, or 14 percent of the water district's workforce since 2008.

The investments include:

- $1 billion over the next 10 years for repair, rehabilitation and seismic retrofitting of the system behind your water supply, including treatment plants, pipelines, pump stations, dams and recharge ponds.
- $228 million over the next 10 years to solve the statewide issue of the Bay Delta, where 40 percent of our water supply travels through. A catastrophic event in the Delta could interrupt this vital supply of water to Santa Clara County for up to two years or more.
- $139 million over the next 10 years to develop new supplies that help ensure future sustainability. Recently completed planning efforts show that additional water supply investments will be needed in the future to accommodate and support the local economy and population.

Conservation has been and must continue to be a way of life. Extra effort to reduce water use is needed in 2014, as the governor urged in his January 17 Drought Emergency Declaration. The water district's board (on January 28) approved activating its Water Shortage Contingency Plan and setting a preliminary water use reduction target of 10 percent to proactively respond to the current drought conditions.

Due to prudent planning, the proposed rate increases are not driven by extra conservation efforts, but rather the need to invest in a reliable water infrastructure and future water supplies. Thanks to investments in local and imported water supplies, groundwater banking, recycled water and conservation, we are going into 2014 with normal groundwater reserves. The water district has more than 20 programs to help local residents and businesses increase their water use efficiency. Water conservation tips and program information can be found on our website.

I encourage you to learn more about these important groundwater issues. In addition to the information on our website at www.valleywater.org, the following opportunities are also available for you to gather information and provide input:

April 8, 2014 6:00 p.m. • Board meeting • Time certain	Public hearing (opens) Santa Clara Valley Water District 5700 Almaden Expwy., San Jose
April 10, 2014 6:00 p.m.—Open house 7:00 p.m.—Board meeting	Public hearing and open house Gilroy City Council Chamber 7351 Rosanna Street, Gilroy
April 22, 2014 6:00 p.m. • Board meeting • Time certain	Public hearing (closes) Santa Clara Valley Water District 5700 Almaden Expwy., San Jose

If you have questions or concerns about groundwater, this year's charge-setting process, or how we can better serve you, please join us at an upcoming open house or public hearing, or visit our website, www.valleywater.org. You may also contact us directly by phone at (408) 265-2600, or email at clerkoftheboard@valleywater.org

Sincerely,

Beau Goldie
Chief Executive Officer

Protection and Augumentation of Water Supplies
43rd Annual Report 2014-2015

Sections

1 Present Water Requirements and Water Supply Availability

2 Future Water Requirements and Water Supply Availability

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5 Appendices

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Introduction

This is the 43rd annual report on the Santa Clara Valley Water District's activities in the protection and augmentation of water supplies. This report is prepared in accordance with the requirements of the District Act, section 26.5.

1 **Section 1**
Provides information on the present water requirements and water supply availability;

2 **Section 2**
Addresses future water requirements and water supply availability;

3 **Section 3**
Discusses programs needed to sustain water supply reliability into the future;

4 **Section 4**
Provides the financial analysis of the water district's water utility system, including future capital improvement and maintenance requirements, operating requirements, financing methods and the recommended groundwater production and other water charges by zone for fiscal year 2014-2015.

In FY 2014-15 the water district is proposing up to a 9.9 percent increase in the municipal and industrial (M&I) groundwater production charge for the North County and up to a 4.6 percent increase for South County. For M&I surface water users the water district is proposing up to a 10.1 percent increase for North County and up to 5.4 percent for South County. The water district is proposing up to an 4.6 percent increase for agricultural groundwater users and up to 12.3 percent for agricultural surface water users in either zone. These increases are necessary to cover rising operating costs and to pay for critical investments that will help ensure reliable water supply.

Why are investments in water so critical?

- Several local reservoirs are currently under storage restrictions because of seismic safety concerns. Until the dams are rehabilitated, thousands of acre-feet of water will be lost that otherwise could have been stored for future use.
- There is a 63 percent probability that water supplied from the Delta will be disrupted in the next 25 years due to seismic events or climate change. The Delta conveys 40 percent of Santa Clara County's water. A solution is needed to reduce the risk of a prolonged imported water supply interruption and to improve long-term average water supply reliability.
- The water district's infrastructure is aging. For example, the Rinconada Water Treatment Plant was built in 1967 and is overdue for an upgrade that will improve reliability and increase plant capacity.
- 2013 was the driest year on record in California underscoring the importance of investing in the expansion of recycled water, an all-weather water supply.

Without investments in water supply reliability, groundwater levels would decline, wells would run dry and permanent land subsidence (sinking of the ground) would occur again as it did between 1915 and 1970.

What do Groundwater Production Charges pay for?

What you get	What we do
Benefits • Reliable, healthy and clean drinking water • Diverse water supply sources • Protected and sustained water resources • Maximized water conservation and recycling	**Replenish the groundwater basin** • Operate and maintain local reservoirs to capture water and fill recharge ponds. • Purchase imported water. **Ensure safe drinking water** • Monitor and protect groundwater from pollutants. • Ensure proper construction and destruction of wells. **Construct, maintain and repair** • Plan and construct improvements to infrastructure such as dams, pipelines, ponds, treatment plants and pump stations. • Operate and maintain pipelines and pumping plants to help sustain the groundwater aquifer.

Local water

A complex network of reservoirs, creeks and specialized ponds replenishes the groundwater basin. The same system is also used to transport imported water so that it, too, can be used to replenish the aquifer. It all works so well that "managed" recharge actually exceeds natural recharge. Water pumped from the groundwater basin through wells is used by private well owners, farmers and water retailers. Some water captured in reservoirs is processed at state-of-the art drinking water treatment plants. The treated water is sold to local water retailers, such as San Jose Water Company, who use their own distribution systems to serve customers.

Imported water

Much of the county's current water supply comes from hundreds of miles away, first as snow or rain in the Sierra Nevada range of northern and eastern California, then as water in rivers that flow toward the Sacramento-San Joaquin River Delta. This "imported water" is brought into the county through the complex infrastructure of the State Water Project, the federal Central Valley Project and San Francisco's Hetch Hetchy system. Three drinking water treatment plants deliver imported water to customers, while the rest is used to replenish groundwater basins. Having treated imported water available to meet demands protects the groundwater basin from over pumping.

Recycled water

An important and growing source of water is recycled water. Used primarily for irrigation by industry and agriculture, recycled water is wastewater that has been purified to meet strict standards set by the California Department of Health Services. Using recycled water helps conserve drinking water supplies, provides a dependable, drought-proof, locally-controlled water supply, reduces dependency on imported water and groundwater and helps preserve our saltwater and tidal habitat by reducing freshwater discharge to the San Francisco Bay in the north county and minimizing treated wastewater discharge to the Pajaro River at certain times in the south county, which is an added environmental benefit.

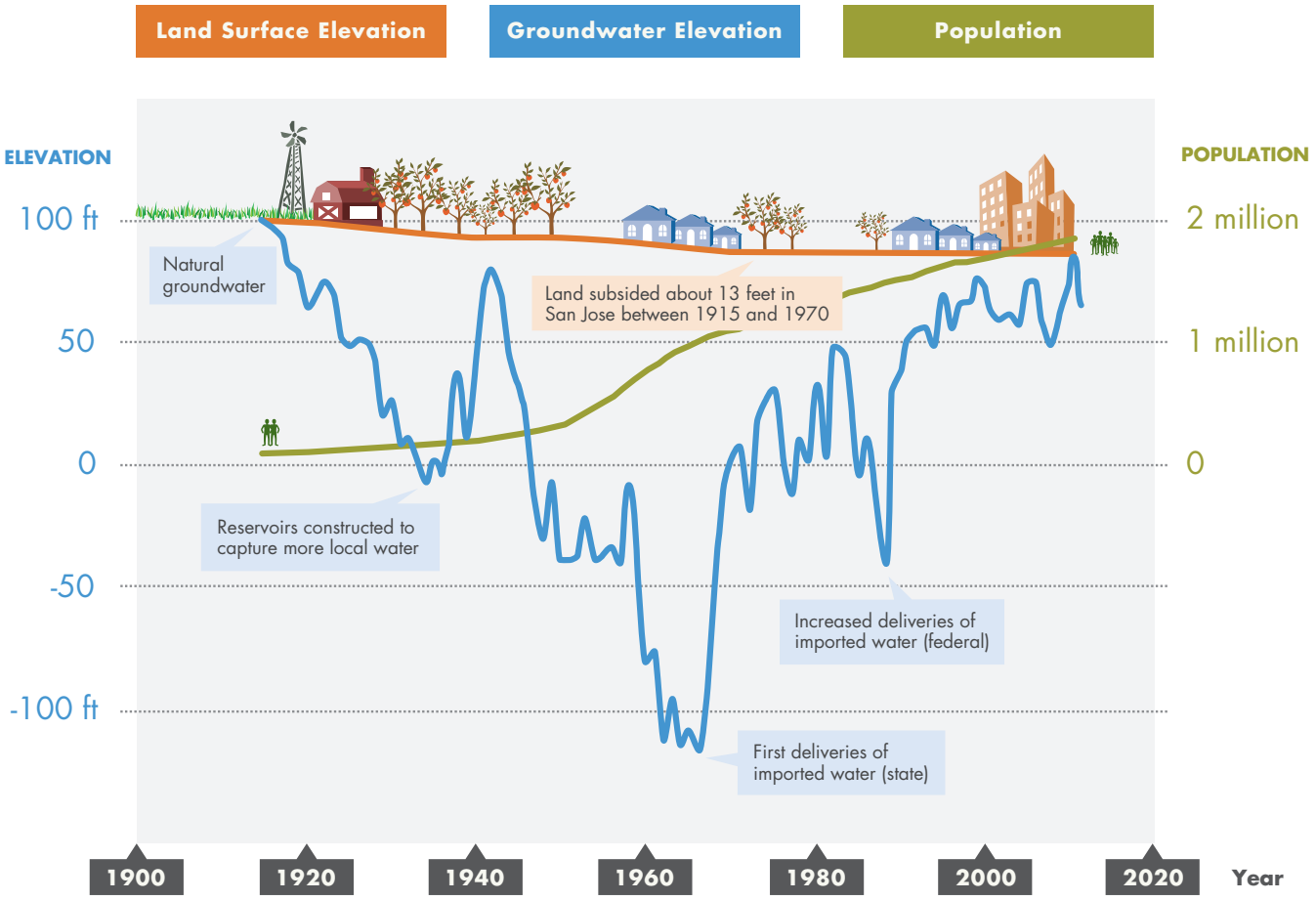
More than 20 years of water planning

Since the last extended drought, the water district has invested in a diverse water portfolio as a strategy to buffer impacts from shortages, maintain water in the groundwater aquifer and provide a reliable supply.

These investments lessen the magnitude of critical shortages in supplies due to hydrologic conditions and regulatory actions.

SANTA CLARA COUNTY GROUNDWATER AT-A-GLANCE

a graphic representation not intended as a technical exhibit



Over the years, the water district's water importation and groundwater management activities have stabilized groundwater levels and prevented land subsidence, or sinking.

Estimated 2013 total county water supply

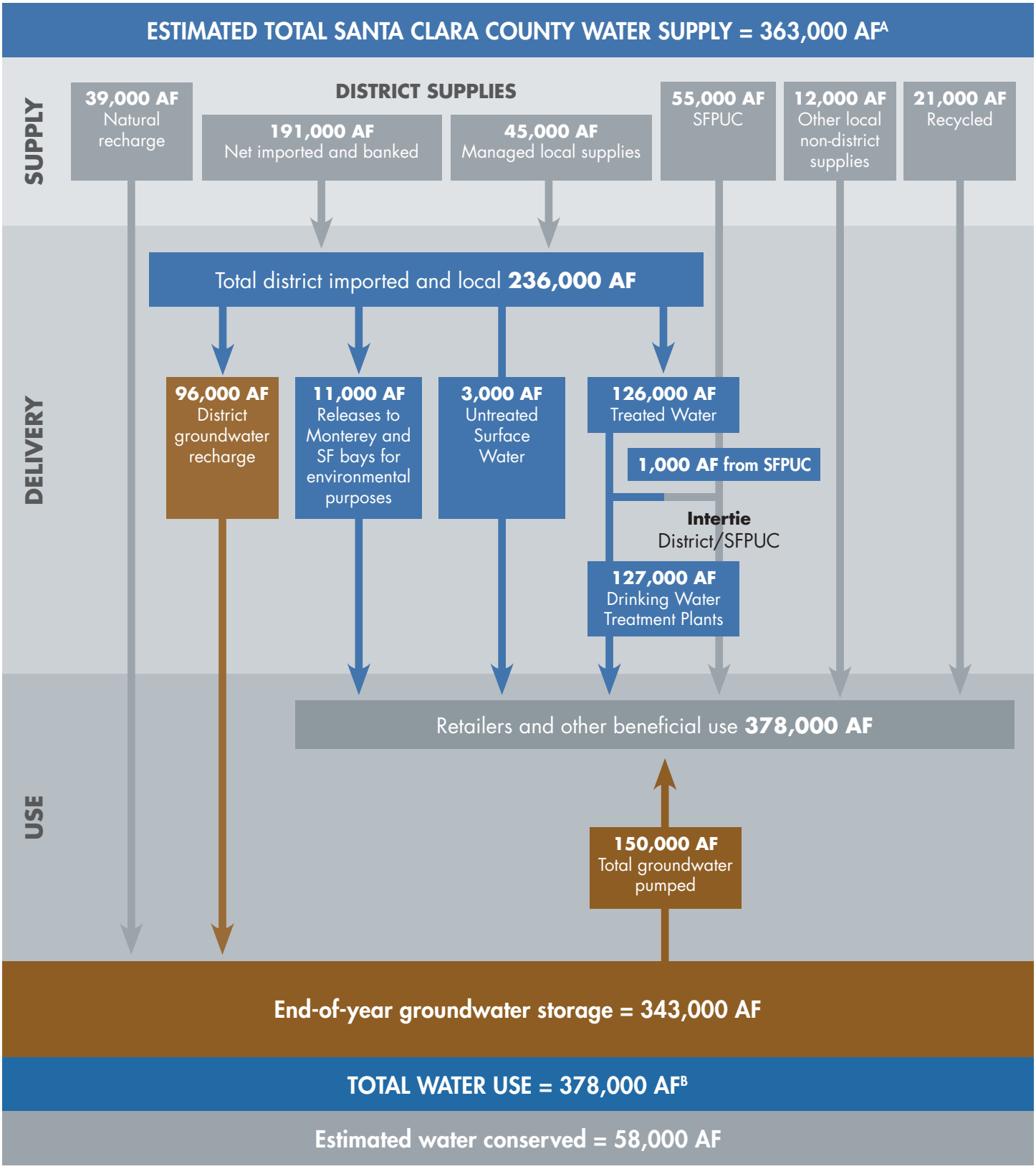
The chart at right shows calendar year 2013 estimated total water supply for Santa Clara County. Water from our 10 local reservoirs and water imported from the federal Central Valley Project and State Water Project is:

- Used to replenish local groundwater basins, which are pumped for use by individual well owners, municipal and retail water providers
- Sent to the district's three drinking water treatment plants for purification
- Supplied directly to water retailers
- Released to meet environmental needs and regulations

Non-district supplies in the county include rainfall recharge; water from San Francisco's Hetch Hetchy system; and private water rights. Note: stored groundwater is not included in the overall supply figure. For more detail h sources of supply, see Section 1.

Acre-foot: About 326,000 gallons, the amount used by two families of five over one year.

Calendar Year 2013



[A] Includes net district and non-district surface water supplies and estimated rainfall recharge to groundwater basins.
[B] Includes municipal, industrial, agricultural and environmental uses.

WATER RATES

		Dollars Per Acre Foot		
	Basic User/Groundwater Production Charge	**FY 2012-13**	**FY 2013-14**	**Recommended FY 2014-15**
Zone W-2 (North County)	Municipal and Industrial	622.00	680.00	747.00
	Agricultural	17.70	18.30	19.14
	Surface Water Charge			
	Surface Water Master Charge	12.60	15.31	18.60
	Total Surface Water, Municipal and Industrial*	634.60	695.31	765.60
	Total Surface Water, Agricultural*	30.30	33.61	37.74
	Treated Water Charges			
	Contract Surcharge	100.00	100.00	100.00
	Total Treated Water Contract Charge**	727.00	780.00	847.00
	Non-Contract Surcharge	50.00	75.00	150.00
	Total Treated Water Non-Contract Charge***	672.00	755.00	897.00

	Basic User/Groundwater Production Charge	**FY 2012-13**	**FY 2013-14**	**Recommended FY 2014-15**
Zone W-5 (South County)	Municipal and Industrial	295.00	305.00	319.00
	Agricultural	17.70	18.30	19.14
	Surface Water Charge			
	Surface Water Master Charge	12.60	15.31	18.60
	Total Surface Water, Municipal and Industrial*	307.60	320.31	337.60
	Total Surface Water, Agricultural*	30.30	33.61	37.74
	Recycled Water Charges			
	Municipal and Industrial	275.00	285.00	299.00
	Agricultural	41.50	42.10	42.94

*Note: The total surface water charge is the sum of the basic user charge (which equals the groundwater production charge) plus the water master charge.

**Note: The total treated water contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the contract surcharge.

***Note: The total treated water non-contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the non-contract surcharge.

The water district is proposing groundwater production charge increases of up to 9.9 percent for North County Municipal and Industrial (M&I) well owners, and up to 4.6 percent for South County. For agricultural groundwater users, the water district is proposing up to 4.6 percent increase in either zone. For surface water users, the water district is proposing increases up to 10.1 percent for North County M&I water users, up to 5.4 percent for South County M&I water users, and up to 12.3 percent for agricultural surface water users. The increases are necessary to cover operating expenses and fund critical capital program needs, including dam seismic retrofits. We have downsized the district's workforce by roughly 14 percent in the past few years. Even so, an increase in water charges is necessary to help ensure adequate water supply to Santa Clara County. The recommended charges are shown in the right-hand column of the chart above.

1-1 WATER SUPPLY OVERVIEW

The mission of the Santa Clara Valley Water District (water district) is to provide for a healthy, safe, and enhanced quality of living in Santa Clara County through watershed stewardship and comprehensive management of water resources in a practical, cost-effective, and environmentally-sensitive manner for current and future generations. Accordingly, staff employs an integrated approach to manage a sustainable water supply through conjunctive management and use of surface water and groundwater resources and maximizing water use efficiency.

Water supply is comprised of "incoming" supplies from local and imported sources, as well as previously-stored supplies withdrawn from in-county and/or out-of-county surface water and groundwater storage.

Local Supplies

Local groundwater resources make up the foundation of water supply in Santa Clara County, but they need to be augmented by the water district's comprehensive water supply management activities in order to reliably meet the needs of county residents, businesses, agriculture and the environment. These activities include direct managed recharge and in-lieu groundwater recharge through the provision of treated surface water, acquisition of supplemental water supplies, and programs to protect, manage and sustain water resources.

The bulk of the local water supplies originate from runoff from precipitation, captured in local reservoirs and released for groundwater recharge and for treatment at the treatment plants. Some of the precipitation infiltrates and recharges the groundwater basins, although this natural recharge is insufficient to fully replenish groundwater extracted from the basins.

An additional local water supply is highly-treated recycled water used for non-potable purposes. Use of recycled water offsets demand for potable water and serves as in-lieu recharge. Every gallon of recycled water used in this county saves an equal gallon of groundwater or treated drinking water.

Imported Supplies

The water district's imported sources of supply originate from natural runoff and releases from statewide reservoirs and pumped out of the Sacramento-San Joaquin Delta by the State Water Project (SWP) and the federal Central Valley Project (CVP). The imported water delivered by the SWP and CVP is sent to the water district's three water treatment plants or is used to supplement groundwater recharge. The treated water is sold to seven of the 13 water retailers located within Santa Clara County to offset groundwater pumping. The annual allocations of contracted supplies from the SWP and CVP are subject to cutbacks due to dry hydrologic conditions and to Delta pumping restrictions. The water district may also hedge against shortages by taking deliveries of available temporary flood flows from the Delta early in the year, before imported water contract allocations and local hydrology are known. Another remedy for shortages is through the purchase of transfer water or exchanges. Additionally, eight water retailers purchase water from the City and County of San Francisco that originates from the Tuolumne River watershed and watersheds in the Bay Area. Without all of these supplemental supplies, groundwater pumping would exceed sustainable groundwater extraction levels.

Conjunctive Water Management

Since the 1930s, the water district's water supply strategy has been to coordinate the management and use of surface water and groundwater to maximize water supply reliability. The 2012 Groundwater Management Plan, adopted by the water district Board of Directors (board) in July 2012, describes the water district's conjunctive management activities, as well as basin management objectives, strategies, and related outcome measures.

Key conjunctive management efforts include the managed recharge of imported and local surface water and in-lieu groundwater recharge through the provision of treated surface water, raw surface water and recycled water, acquisition of supplemental water supplies, and water conservation and recycling. These in-lieu recharge activities help reduce demands on groundwater or surface water, and are as important as managed recharge in helping to maintain a reliable water supply.

In 2013, the water district replenished the groundwater basins with 96,000 acre-feet of surface water. The largest source of in-lieu recharge was the distribution of treated water (127,000 acre-feet). The water district saved an estimated 57,900 acre-feet of water through programs designed to reduce residential, commercial, and agricultural water use and make conservation a way of life in the county. A smaller, but important and growing source of in-lieu recharge is recycled water, which provided about 21,000 acre-feet of water for irrigation, industry, and agriculture in 2013. Using recycled water reduces dependency on groundwater and surface water, helps conserve drinking water supplies, and provides a locally-controlled, drought-proof supply. The water district is also partnering with local recycled water producers to further expand the use of recycled water.

Without the water district's conjunctive use management programs (including managed and in-lieu recharge), groundwater levels would be considerably lower than they are today, reducing water supply reliability and increasing the risks of renewed land subsidence and salt water intrusion. Water supplies are becoming increasingly constrained by challenges including uncertainty in surface water supplies, extended droughts, climate change, and increased water demands. Maintaining the water district's conjunctive use management programs and expanding them as needed is critical to making the best use of local water resources and ensuring a reliable water supply both now and in the future.

Although the groundwater basins are the water district's largest water storage facility, the limiting factor of providing a reliable water supply in drought periods is the overall capacity and capability to operate a conjunctive use management system of surface water and groundwater supplies. Most of the local reservoirs were sized for annual operations, storing water in winter for release to groundwater recharge in summer and fall. The exception is the Anderson-Coyote reservoir system, which provides valuable carryover of supplies from year to year and can serve as a backup supply source to the water district's water treatment plants when imported water deliveries are curtailed. However, dam safety operating restrictions placed recently on Anderson, Coyote, Almaden, Calero and Guadalupe reservoirs have resulted in loss of about a third of the total surface storage capacity (as shown in Table 1-1.1) as well as significant loss of water supply yield.

Table 1-1.1 Original and Restricted Capacities of Major Water District Reservoirs

Reservoir	Year Built	Reservoir Capacity (acre-feet)	Restricted Capacity (acre-feet)	Use
Almaden*	1935	1,586	1,472	Groundwater recharge, treated for drinking water
Anderson*	1950	90,373	61,810	Groundwater recharge, treated for drinking water
Calero*	1935	9,934	4,585	Groundwater recharge, treated for drinking water
Chesbro	1955	7,945	7,945	Groundwater recharge
Coyote*	1936	23,244	12,382	Groundwater recharge, treated for drinking water
Guadalupe*	1935	3,415	2,218	Groundwater recharge
Lexington	1952	19,044	19,044	Groundwater recharge
Stevens Creek	1935	3,138	3,138	Groundwater recharge
Uvas	1957	9,835	9,835	Groundwater recharge
Vasona	1935	495	495	Groundwater recharge
Total		**169,009**	**122,924**	
* Reservoirs with dam safety operating restrictions				

As part of annual operations planning, the water district routinely opts to carry over a portion of imported water supplies for future years. Even though the amount is often limited by state or federal project operations, it provides cost-effective insurance against a subsequent dry year. Additionally, the water district has invested in a water banking program at the Semitropic Water Storage District which provides 350,000 acre-feet of out-of-county water storage capacity. Together with water transfers and exchanges, this additional storage helps the water district manage uncertainty and variability in supply as each water year develops.

Managing a complex system of surface water and groundwater resources is further complicated by hydrologic uncertainties, regulatory restrictions and aging infrastructure, as discussed in the following sections of this report.

1-2 PRESENT WATER SUPPLY CONDITIONS

Rainfall at the San Jose gauge in January 2013 totaled 0.6 inches, the driest on record since 1874. It was the start of a year that ended as the driest year on record. In addition, pumping restrictions in the Delta due to ongoing fishery concerns further reduced water deliveries in 2013. Reservoir storage volumes in Lake Oroville, Shasta Lake, and Folsom Lake began the year at 113, 115 and 122 percent of average, but by the end of December 2013, those levels had dropped to 58, 58 and 39 percent of average, respectively.

The initial SWP allocation for 2013 was set at 30 percent in November 2012, increased to 40 percent after a late storm in December 2012, then decreased to 35 percent in March 2013 due to what California Department of Water Resources Deputy Director Carl Torgersen described as the "well below average statewide snowpack and precipitation." The final CVP allocations were 20 percent for south of Delta agricultural (AG) purposes; the corresponding municipal and industrial (M&I) allocation for the District was 70 percent. Table 1-2.1 summarizes the year types and final allocations from the SWP and CVP to the water district for the last five years.

2014 is the beginning of a third consecutive dry year, and the SWP allocation has been set at zero (0) percent, the historic low. Governor Brown urged extra effort to reduce water use in his January 17, 2014 Drought Emergency Declaration. The water district's board (on January 28, 2014) approved activating its Water Shortage Contingency Plan and set a preliminary water use reduction target of 10 percent.

Table 1-2.1 Statewide Water Year Types and Final Imported Water Allocations

Water Year[1]	Year Type		Final allocations to the water district as % of contract amounts		
	Sacramento River	San Joaquin River	SWP	CVP	
				M&I	AG
2008–09	dry	below normal	40%	60%	10%
2009-10	below normal	above normal	50%	75%	45%
2010-11	wet	wet	80%	80%	80%
2011-12	below normal	dry	65%	75%	40%
2012-13	dry	critical	35%	70%	20%

Locally, rainfall for the 2012–13 season[2] at downtown San Jose was at 61 percent of average[3]. Combined rainfall from January through June 2013 shows that it was the driest January-June period on record, going back to 1874. Combined storage at water district reservoirs at the end of the 2012–13 water year was at 42 percent of capacity.

The 2013–14 water year began with a dry fall. Statewide precipitation by December 31, 2013 was at 25 percent of seasonal average to date. Statewide snow water equivalent for the same period was at 20 percent.

[1] Water year is the twelve month period between October 1 and September 30.
[2] Rainfall season or year is the twelve month period between July 1 and June 30, same as fiscal year.
[3] Rainfall at San Jose (station 86) was approximately 8.7 inches or 61 percent of average for the rainfall season from July 1, 2012 to June 30, 2013.

Runoff and storage at key reservoirs were at 33 and 70 percent of seasonal average, respectively. With a few more months to go in the rainy season, it is unclear what type of water year 2013–14 will turn out to be.

Locally, November 2013 through January 2014 were very dry months. Local rainfall as of February 1, 2014 ranges from 21 percent of seasonal average to date in San Jose to 11 percent in the Coyote watershed. Total storage at water district reservoirs as of February 1, 2014 was 32 percent of capacity. However, because of storage restrictions in place for half of the water district reservoirs, the combined storage was at 44 percent of the reduced capacity. Total storage at water district reservoirs was 50 percent of 20 year average.

While reservoirs are a visible indicator of our local water supply, the majority of our local reserves lie hidden beneath our feet in the groundwater aquifers. Because the groundwater basins can store two times more water than all of the local surface water reservoirs combined, the water district strives to maintain adequate storage in the groundwater basins in wet and average years to get through dry periods such as the record-setting dry conditions in 2013. The water district increased managed recharge to help offset higher groundwater pumping in 2013 compared to 2012.

Groundwater elevations at three index wells (see locator map in Figure 1-2.1), as indicators of groundwater trends and conditions, are shown in Figures 1-2.2 through 1-2.4. Continued dry conditions have resulted in lower groundwater levels as compared to 2012. Estimated end of year groundwater storage levels are also lower than 2012, as shown in Table 1-2.2. Despite these changes, groundwater levels remain above recorded historical lows and are also above minimum thresholds[4] established to prevent renewed land subsidence. Estimated groundwater storage falls within what is considered the “normal” stage of the water district’s Water Shortage Contingency Plan. If dry conditions continue, groundwater storage may fall into the “alert” stage. The district continues to closely track water supply conditions and modify operations accordingly. Monthly water supply conditions are summarized in the district’s Water Tracker, which is available on the district website. A more detailed evaluation of groundwater conditions will be presented in the water district’s annual groundwater report, which will be completed in June 2014 and will include reporting on outcome measures related to groundwater storage, levels, quality, and land subsidence.

[4] To avoid additional permanent subsidence due to groundwater overdraft, the District has established water level thresholds at ten index wells throughout the Santa Clara Plain. A tolerable rate of 0.01 feet per year of subsidence was applied to determine threshold groundwater levels for these wells. These subsidence thresholds are the groundwater levels that must be maintained to ensure a low risk of unacceptable land subsidence.

Figure 1-2.1 Map of Index Well Locations

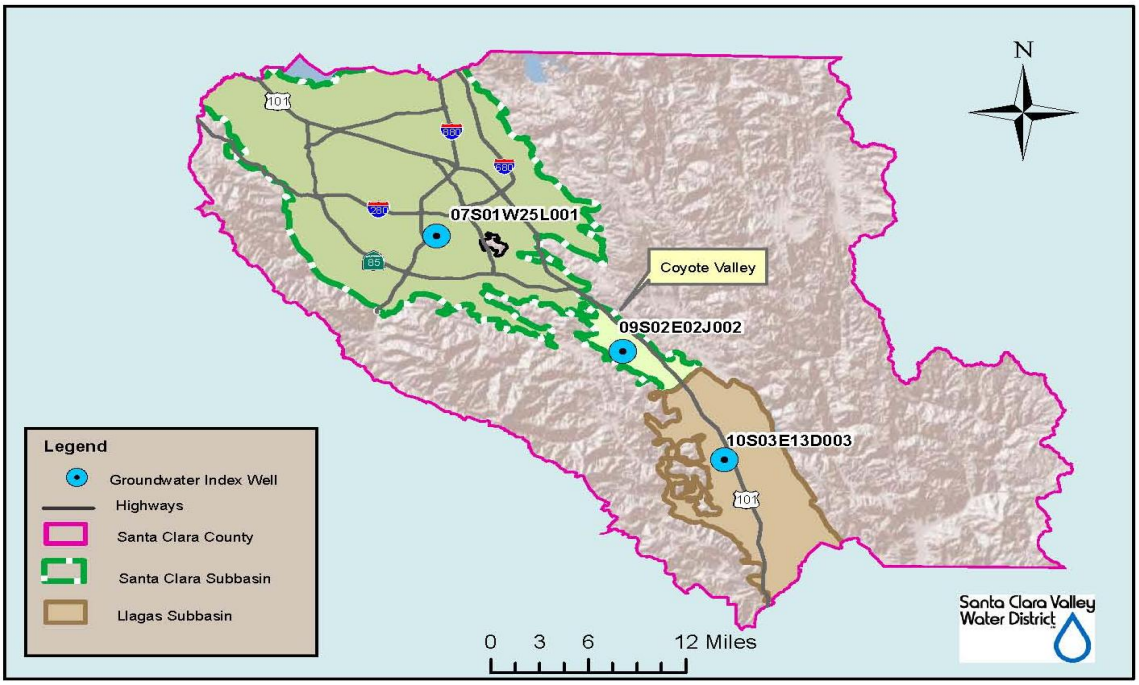


Figure 1-2.2 Historical Santa Clara Subbasin Groundwater Elevations, Index Well 07S01W25L001.

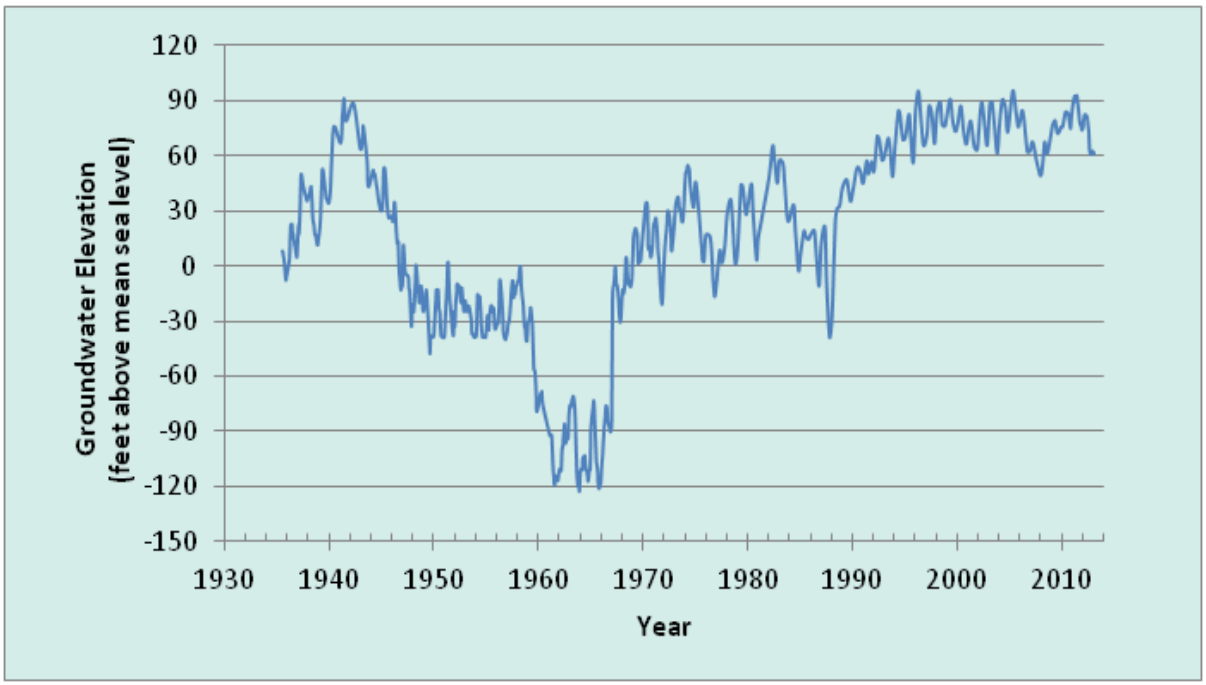


Figure 1-2.3 Historical Coyote Valley Groundwater Elevations, Index Well 09S02E02J002

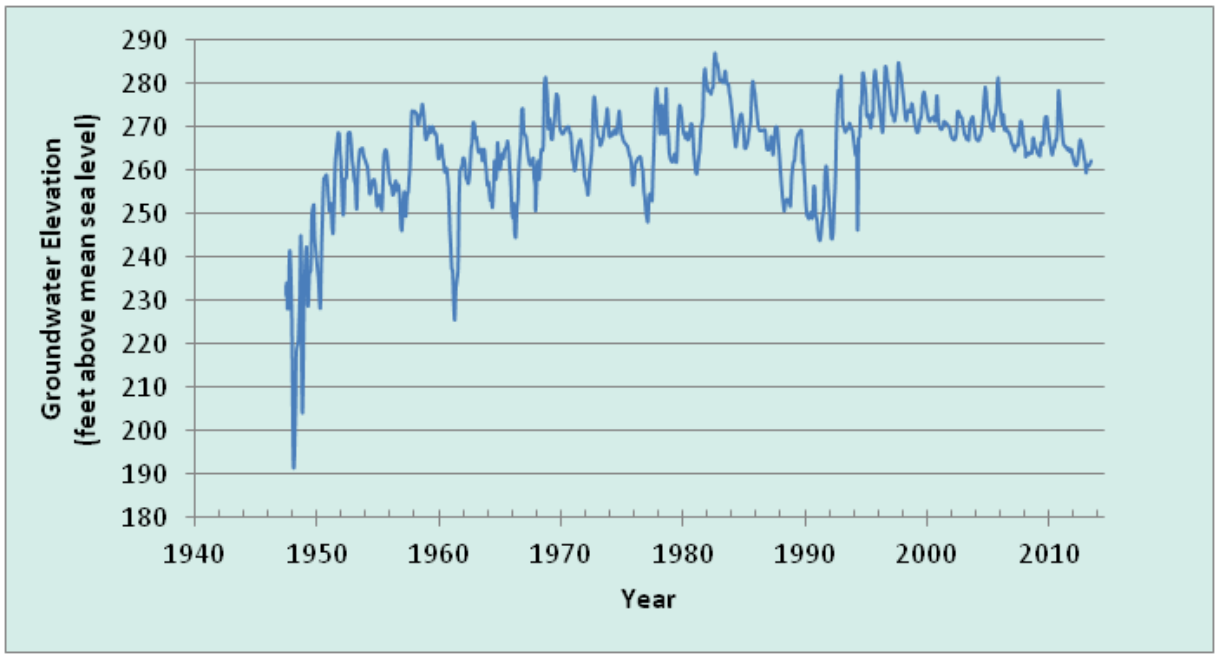


Figure 1-2.4 Historical Llagas Subbasin Groundwater Elevations, Index Well 10S03E13D003

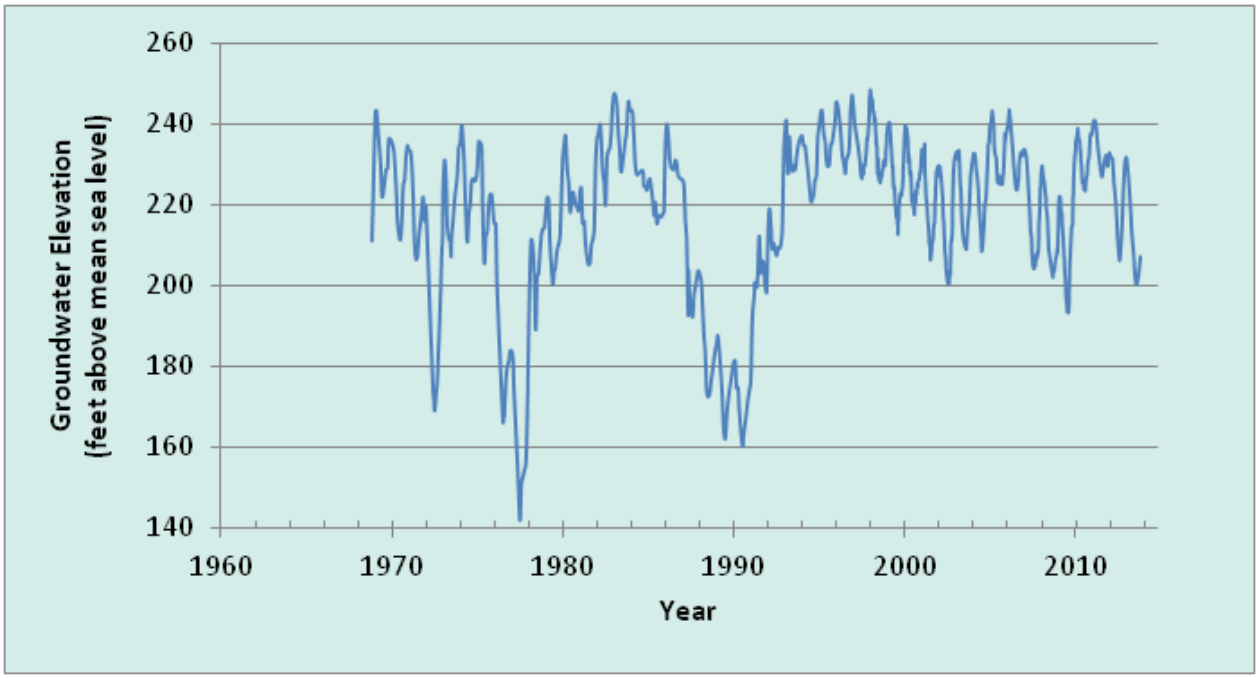


Table 1-2.2 End-of-Year Groundwater Storage and Change in Storage

	Cumulative Groundwater Storage Estimates AF (acre feet)		
	End of Year 2012	End of Year 2013	Change in Storage AF
Santa Clara Subbasin, Santa Clara Plain	308,000	303,800	-4,200
Santa Clara Subbasin Coyote Valley	12,400	10,300	-2,100
Llagas Subbasin	36,900	28,400	-8,500
Total	**357,300**	**342,500**	**-14,800**

1-3 PRESENT WATER USE AND WATER REQUIREMENTS

Water demands increased by roughly 5 percent in 2013. Despite this increase, the district was able to meet its water use demands without having to call for short-term demand reductions. Supplemental imported water from transfers, exchanges and groundwater banking brought an additional 67,900 acre-feet into the county to meet 2013 demands.

To meet current and future demands the District continues to implement its long-term water conservation program. With a target of saving nearly 100,000 acre-feet per year by 2030, the long-term program offers a variety of incentives and rebates that achieve sustainable water savings. The program saved approximately 58,000 acre-feet in 2013.

Table 1-3.1 shows unadjusted historical water use in Santa Clara County and Table 1-3.2 shows a breakdown of groundwater production and managed recharge by water charge zone. Table 1-3.3 shows a historical summary of surface water supply, use and distribution for the last three years.

Table 1-3.1 Historical Water Use in Santa Clara County for Calendar Years 2011-2013

Historical Calendar Year Water Use	In Acre-feet		
	Actual 2011	Preliminary 2012	Estimated 2013*
Groundwater Pumped	123,670	132,200	150,000
Treated Water	122,320	136,350	126,800
Raw Surface Water Deliveries	2,760	2,980	2,900
SFPUC Supplies to Local Retailers[1]	50,080	52,000	54,600
SJWC[2] **and Stanford Water Rights**	16,580	8,600	11,800
Recycled Water	14,740	17,240	20,600
Total	**330,150**	**349,370**	**366,700**

[1] San Francisco Public Utilities Commission supplies to 8 retailers and NASA-AMES
[2] San Jose Water Company
** Estimated 2013 rounded to the nearest hundred*

Table 1-3.2 Groundwater Production and Managed Recharge by Water Charge Zone

Charge Zone	Zone W-2					Zone W-5				
	Groundwater Production, acre-feet			Managed Recharge		Groundwater Production, acre-feet			Managed Recharge	
Year	Agricultural	Non-Agricultural	Zone Total	Zone Total Recharge, acre-feet	Managed Recharge as % Production	Agricultural	Non-Agricultural	Zone Total	Zone Total Recharge, acre-feet	Managed Recharge as % Production
1997	1,910	118,550	120,460	78,040	65%	32,746	21,710	54,456	32,120	59%
1998	1,101	99,210	100,310	66,670	66%	25,861	20,009	45,870	26,130	57%
1999	1,087	106,403	107,490	80,900	75%	29,144	23,767	52,910	26,500	50%
2000	972	112,399	113,371	88,400	78%	26,920	24,537	51,457	30,200	59%
2001	752	114,606	115,358	84,620	73%	28,510	25,437	53,947	32,040	59%
2002	707	103,952	104,659	71,660	68%	27,537	23,787	51,324	35,300	69%
2003	447	96,208	96,656	74,200	77%	25,964	24,256	50,220	35,000	70%
2004	579	105,137	105,716	66,700	63%	27,634	25,533	53,167	31,000	58%
2005	826	86,640	87,467	69,200	79%	25,458	25,237	50,695	32,500	64%
2006	429	82,195	82,624	65,770	80%	24,420	28,616	53,036	30,440	57%
2007	1,087	108,748	109,835	58,000	53%	27,660	31,424	59,084	33,410	57%
2008	1,074	106,579	107,653	51,290	48%	28,183	33,520	61,703	36,100	59%
2009	608	97,242	97,850	63,000	64%	24,874	32,400	57,274	39,100	68%
2010	437	84,227	84,664	58,540	69%	22,616	29,459	52,075	42,210	81%
2011	298	70,989	71,287	54,820	77%	22,553	29,828	52,381	39,360	75%
Prelim 2012	500	75,900	76,400	55,940	73%	25,000	30,800	55,800	40,790	73%
Estim 2013	700	91,400	92,100	63,800	69%	23,600	34,100	57,700	32,500	56%

Table 1-3.3 Historical Surface Water Supply, Use and Distribution for Three Previous Calendar Years

			Calendar Year, in Acre Feet		
			Actual 2011	Preliminary 2012	Estimated 2013
District Supplies					
Local Surface Water					
	Inflow	(net, minus evap)	191,270	66,230	11,250
	Releases from(+) or additions to(-) surface water storage		+17,460	-15,320	+34,270
Imported Water					
	Prior year carryover		23,640	19,970	26,360
	Delta flood flows		1,250	0	0
	State Water Project contract allocation		80,000	65,000	35,000
	San Felipe Division contract allocation		123,980	110,740	97,620
	Semitropic water bank withdrawals		0	17,000	45,000
	Water transfers and exchanges		5,000	24,570	22,910
	Returned to District from SFPUC via intertie		4,020	0	640
Total District Supplies:			**446,620**	**288,190**	**273,050**
Distribution of District Supplies					
	To groundwater recharge				
		Santa Clara Plain (Santa Clara Subbasin)	54,820	55,940	63,820
		Coyote Valley (Santa Clara Subbasin)	10,970	16,910	9,910
		Llagas Subbasin	28,390	23,880	22,620
	To treated water		122,320	136,350	126,780
	To surface water irrigation		2,760	2,980	2,900
	To environment		128,150	14,040	10,770
	To Semitropic water bank		66,480	0	0
	To imported water carryover				
		Used by District	19,970	26,360	31,250
		Returned to SWP/CVP	0	0	0
	To water transfers and exchanges		10,000	10,000	5,000
	Returned to SFPUC via intertie		2,760	1,730	0
Total Distribution of District Supplies:			**446,620**	**288,190**	**273,050**
Other Supplies					
San Jose Water Co. & Stanford water rights			16,580	8,600	11,800
Recycled water (including District)			14,740	17,240	20,600
SFPUC deliveries to retailers			50,080	52,000	54,600
Total Other Surface Water Supplies			**81,400**	**77,840**	**87,000**
Total Managed Supplies:			**528,020**	**366,030**	**360,050**
Note: Numbers rounded to the nearest 10AF.					

2-1 OVERVIEW

As the water management agency and principal water wholesaler for Santa Clara County, the water district is responsible for planning (in collaboration with San Francisco Public Utilities Commission [SFPUC] and local retailers) the water supply of the county to meet current and future demand.

Water supply reliability includes the availability of the water itself as well as the reliability and integrity of the infrastructure and systems that capture, store, transport, treat and distribute it. The water district strives to meet water demand under all hydrologic conditions, including satisfying its treated water contracts for deliveries to the retail water suppliers. As the groundwater manager for the county, the water district's goal is to protect and augment groundwater to ensure it is available both now and in the future.

Since water supplies available to the county are obtained from both local and imported sources, the water district's water supply is a function of the amount of precipitation that falls both locally and in the watersheds of Northern California. The supply available is also a function of the facilities in place to manage the supply. Sources of water supply in northern Santa Clara County (North County) consist of locally developed and managed water, recycled water, water imported by the water district via the SWP and the federal CVP, and supplies to some of the retail water suppliers from the SFPUC's regional water system (Hetch Hetchy and Bay Area watersheds). Southern Santa Clara County (South County including Coyote Valley and Llagas Subbasin) is supplied by locally developed and managed water, recycled water, and CVP water.

2-2 PROJECTED FUTURE WATER SUPPLY AVAILABILITY AND DEMAND

Near Term Water Supply Availability

Water district staff begin preparing the water district's Annual Water Supply Operations and Contingency Strategy for the upcoming calendar year in the fall of each year. The strategy is composed of numerous operations and water supply management scenarios that account for the probable range of water supply conditions that the water district can expect in the upcoming year. These variable conditions include precipitation, locally and in the Sierra, as well as imported supplies. Local precipitation and runoff impact our local reservoir storage, stream flow, and natural recharge of the groundwater basins. The quantity of precipitation in the Sierra and the timing of snowmelt impact the water district's imported water supplies that are conveyed through the Sacramento-San Joaquin Delta. Other factors that impact the water district's water supply include: infrastructure and facility limitations; planned and unplanned facilities outages; contractual obligations; the ability to bring in banked water district supplies from Semitropic Water Storage District; and regulatory, institutional and legal constraints.

As described in Section 1 of the report, water year 2013–14 started with a dry fall. The Northern Sierra 8-Station Precipitation Index total from the beginning of October through the end of December of 2013 was 3.3 inches, which is about 19 percent of the seasonal average to date and 7 percent of an average water year. January was dry, and by February 1, 2014, the precipitation accumulation total was 4.5 inches or 17 percent of the seasonal average and 9 percent of an average water year. It is difficult to predict how the rest of the season will turn out.

The Department of Water Resources (DWR) announced its 2014 allocation of 0 percent of contract amounts for the SWP supply. The United States Bureau of Reclamation is expected to announce an initial allocation for CVP in February 2014. The initial allocations are subject to change as the water year progresses.

Local surface water supplies have been reduced because of the loss in water district reservoir storage capacity due to regulatory restrictions to address seismic concerns. Regulatory restrictions at Anderson Reservoir, the largest water district-owned surface reservoir, have resulted in the loss of about 30 percent of its original storage capacity.

Table 2-2.1 reflects the probable range of local and imported surface water supplies the water district currently expects in calendar year 2014. In conjunction with surface water supplies, groundwater reserves are managed to supplement available supplies during dry periods and to ensure that there are adequate supplies to meet current and future demand. The strategy will be continuously updated throughout the year to account for operations to-date and real-time conditions.

Table 2-2.1 Projected Calendar Year 2014 - Range of Surface Water Supply

Projected Calendar Year 2014 Supply in Acre-Feet Based on 1/23/2014 Forecast		
	Average Year	Dry Year
Imported Water	90,000 - 170,000	76,000 - 83,000
Local Surface Water	60,000	14,000
Total	**150,000 - 230,000**	**90,000 - 97,000**

Long-Term Projected Demand and Water Supply

Water Demand

The Association of Bay Area Governments projected in 2009 that the population of the county will increase from 1,880,900 in 2010 to 2,431,300 by the year 2035. Jobs are projected to increase from about 0.9 million in 2010 to about 1.4 million in 2035. Even though per capita water use continues to decline, the water district estimates that increases in population and jobs will result in an increase in water demands from about 329,000 acre-feet in 2010 to about 423,000 acre-feet in 2035. This demand projection takes into account implementation of planned water conservation programs.

Conservation

The water district and most major retail water providers partner in regional implementation of a variety of water use efficiency programs to permanently reduce water use in the county. As shown in Figure 2-2.1, the year 2035 demand with currently planned conservation programs in place is projected to be approximately 423,000 acre-feet.

The long-term savings goal in the water district board-adopted 2012 Water Supply and Infrastructure Master Plan (Water Master Plan) is 98,800 acre-feet per year in water savings by 2030. Additionally, recent legislation (Water Conservation Act of 2009) requires all retail water agencies in the state, with assistance from the water

wholesalers, to reduce per capita water use 20 percent by 2020. To achieve these aggressive long-term goals, the water district implements nearly 20 different ongoing water conservation programs that use a mix of incentives and rebates, free device installation, one-on-one home visits, site surveys, and educational outreach to reduce water consumption in homes, businesses and agriculture. Recent program expansion includes a new gray water program and increased rebates for turf removal. These programs are designed to achieve sustainable, long-term water savings and are implemented regardless of water supply conditions.

Through December 2013, the water district has achieved 57,900 acre-feet per year of conservation savings to stay on pace to reach its long-term goal of 98,800 acre-feet per year by 2030. At this pace the region as a whole should meet the state's goal of 20 percent reduction in per capita water use by 2020.

Long-Term Projected Water Supply

Several sources of supply contribute to the water district's ability to meet future demands, including local surface water and natural groundwater recharge, recycled water, supplies delivered to retailers by the SFPUC, and Delta-conveyed imported water supplies:

Local Surface Water and Natural Groundwater Recharge

Local surface water supplies are expected to increase over current levels after the water district completes seismic retrofits on several dams so the dams can be operated at full capacity. In addition, the Water Master Plan calls for constructing and rehabilitating pipelines between reservoirs and groundwater recharge ponds and constructing new groundwater recharge ponds. These new and rehabilitated facilities will increase the water district's ability to use local runoff to meet water demands. Natural groundwater recharge is not expected to change over the planning horizon.

Recycled Water

Recycled water use is expected to increase in the long-term. The Water Master Plan projects that approximately 30,000 acre-feet of year 2035 demands will be met with non-potable recycled water. In addition, the water supply strategy, Water Master Plan, includes developing another 20,000 acre-feet per year of advanced treated recycled water for potable reuse by 2030. Additional studies and outreach are necessary before the water district can begin project-specific planning for potable reuse.

San Francisco Public Utilities Commission (SFPUC)

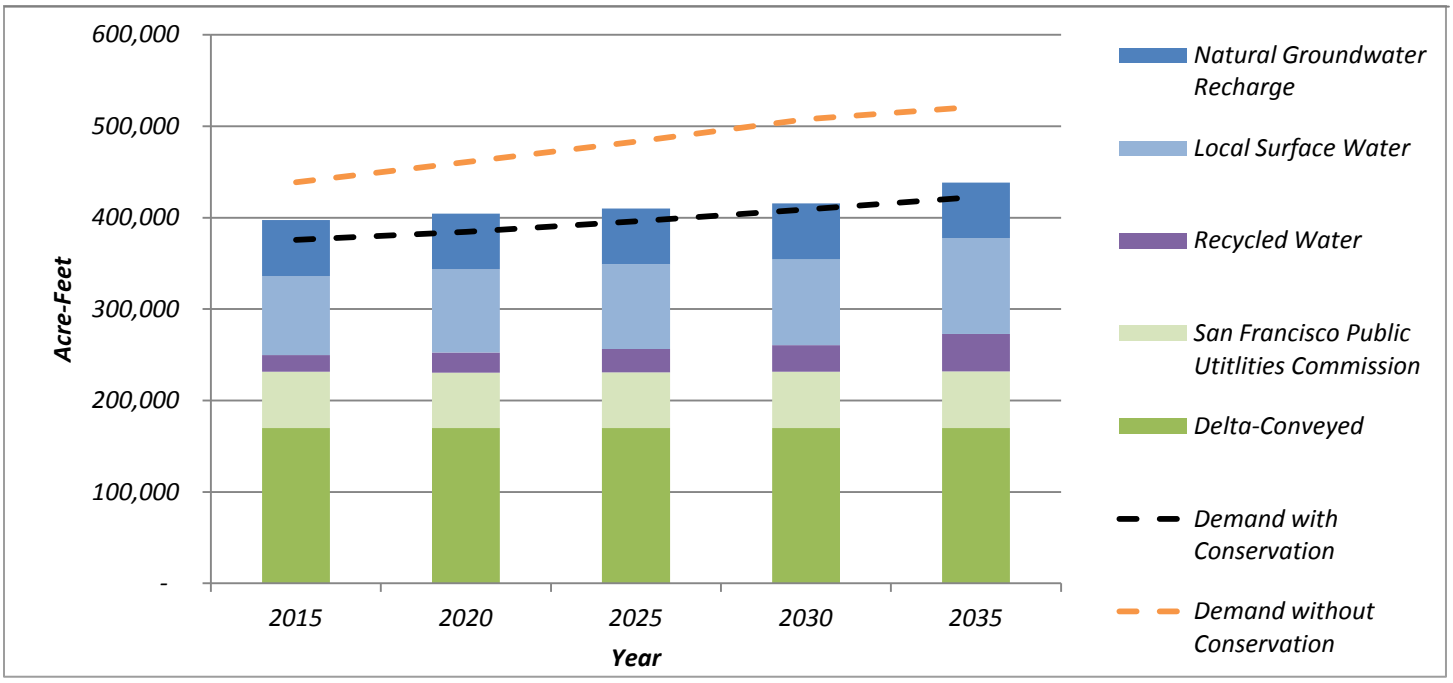
SFPUC supplies to common retailers reduce demands on water district supplies in northern Santa Clara County. Most of the common retailers have supply guarantees from SFPUC that are not expected to change over time. However, two retailers (the City of San Jose and the City of Santa Clara) have interruptible contracts. San Francisco is scheduled to make a decision about whether to provide supply guarantees to these water retailers by 2018.

Delta-conveyed Imported Water

Delta-conveyed imported water deliveries from the SWP and federal CVP have been negatively impacted by significant restrictions on Delta pumping required by the biological opinions issued by the U.S. Fish and Wildlife Service (FWS - December 2008) and National Marine Fisheries Service (NMFS - June 2009), as well as altered hydrologic conditions due to climate change. In the 2011 SWP delivery reliability report, issued in June 2012, water deliveries on average were similar to those estimated in the 2009 report. The average annual SWP delivery is at 60 percent for current and projected future conditions. Over multiple-year dry periods, the average annual SWP delivery is around 35 percent. The average annual CVP delivery is about 70 percent and drops to about 55 percent over the multiple-year dry period. In addition to the impact of reduced annual supplies, the water district could face multiple year cumulative impacts from reduced supplies in the average and wetter years. This would impact the water district's ability to store water either locally or out-of-county as reserves to be used in drier years.

Figure 2-2.1 shows projected average supplies and demands through year 2035. The projection assumes existing supplies and infrastructure are maintained and that the Water Master Plan is fully implemented. In this case, average water supplies will be sufficient to meet future water demands.

Figure 2-2.1 Average Supply & Demand Comparison, Santa Clara County



Reserves

The Water Master Plan also evaluated water supply conditions during multiple dry-year periods (extended droughts). Santa Clara County, like the rest of California, experiences drastic changes in annual precipitation. The variation in precipitation, both locally and in the northern California watersheds, results in fluctuations in the amount of water supply available from year to year. In many years, annual supplies exceed demands, while in some years demands can greatly exceed supplies. As part of its conjunctive management program, the water district compensates for this supply variability by storing excess wet year supplies in the groundwater basin, local reservoirs, San Luis Reservoir, or Semitropic Groundwater Bank. The water district draws on these reserve supplies during dry years to help meet demands. These reserves are generally sufficient to meet demands during a critical dry year and the first few years of an extended drought. With full implementation of the Water Master Plan, the district anticipates that supplies would be sufficient to meet at least 90 percent of demands during an extended drought.

2-3 CONCLUSIONS, FINDINGS AND CHALLENGES TO FUTURE WATER SUPPLY AVAILABILITY

Future Water Supply Reliability

Water demands are projected to increase to approximately 423,000 acre-feet per year by year 2035. Without additional supplies, normal year supplies in year 2035 are anticipated to be approximately 419,000 acre-feet per year. This is a shortfall of approximately 4,000 acre-feet in a normal year with projected shortfalls during an extended drought considerably greater. Water district modeling indicates that as droughts linger and storage reserves are depleted the county could experience shortages of more than 100,000 acre-feet per year under 2035 demand conditions without new investments in water supplies. To provide a reliable supply of water, the water district must make investments in securing existing water supplies and infrastructure, optimizing the use of existing supplies and infrastructure, and increasing recycling and conservation. The Water Master Plan presents the water district's strategy for developing the needed water supplies and providing a reliable water supply for Santa Clara County under normal and drought conditions.

Decrease in Supply

Projected Delta-conveyed imported supplies have decreased as a result of actions to protect fisheries in the Delta and the consequences of climate change. In addition, the water district's imported supplies are vulnerable to degrading water quality and interruptions from levee failures. To reduce these risks, the district has joined with other public water agencies and state and federal agencies to develop the Bay Delta Conservation Plan (BDCP). The goals of the plan are to restore the health of the Delta ecosystem and the reliability of water supplies conveyed through the Delta, and it includes major investments in habitat restoration, measures to address environmental stressors such as predation and invasive species, and new diversion and conveyance facilities to help restore natural flow patterns in the Delta. Benefits of the BDCP generally fall into three categories – 1) reduced regulatory risk and improved long-term average water supply reliability (or avoided loss of long-term average water supply); 2) reduced risk of prolonged imported water supply interruption due to seismic events and climate change; and 3) improved quality of imported water conveyed through the Delta, and reduced salt loading to the groundwater basin. The public draft BDCP and associated environmental documentation were released in December, 2013 and are scheduled to be finalized in Fall 2014. The water district will continue to evaluate the benefits and costs of the BDCP, related policy issues, and role of the District in BDCP implementation.

Risks and Uncertainties

Hydrologic, institutional and regulatory risks and uncertainties influence the projections of both local and imported water supplies and the anticipated reliability of those supplies. Risks and uncertainties to water supply include: random occurrences of hazards and extreme events resulting in local and/or imported water outages, climate change, Delta levee failure, more stringent water quality standards, water quality contamination, fisheries protection measures, SFPUC changes in contracts with local water retailers, reduced deliveries, and demand growth greater than projected.

Investment Needs

The water district manages and addresses risks and uncertainties by building and maintaining an integrated and diverse water supply system. The water supply system that exists today will continue to meet most of the county's future water needs and is the foundation of future water supply investments.

Thus, securing existing water supplies and infrastructure is critical to water supply reliability. The water district needs to continue to be vigilant in protecting the groundwater basins from overdraft and contamination, mitigating the diminishing imported and local supplies, expanding water conservation and recycling, and maintaining and replacing the aging water supply infrastructure. These infrastructure investment needs will be further discussed in Section 3 of this report.

3-1 ACTIVITIES TO PROTECT AND AUGMENT WATER SUPPLIES OF THE DISTRICT

In May 2013, the water district's board adopted groundwater production charges and other water charges to finance a program of activities to protect and augment water supplies of the water district. The program, to be undertaken in fiscal year FY 2013–14, is comprised of activities and service functions in the areas of operations, maintenance and construction, as illustrated in Table 3-1.1. These activities are designed to work together to meet water district board-adopted end goals and policies as well as to provide benefits to the community.

Table 3-1.1 Program Activities to Manage and Provide a Sustainable Water Supply

Activities to Protect & Augment Water Supplies		End Goals & Benefits
	Services and Functions	• Reliable, clean water supply for current and future generations • Delivery of reliable high quality drinking water • Sustainable water supply through integrated water management • Assets and resources managed for efficiency and reliability • Healthy, safe and enhanced quality of living in Santa Clara County
Operation	• Planning & development • Water purchases • Transmission • Treatment • Distribution • Storage • Groundwater recharge • Conservation & water recycling • Regulatory compliance and mitigation	
Maintenance	• Surface water & groundwater resources protection & management • Asset protection & management	
Construction	• Capital improvement • Infrastructure management	

Revenue from groundwater production charges and treated water charges constitute the majority of funds needed to finance the operations costs of the Water Utility. Almost a third of the operating budget[1] is needed for imported water purchases to augment local supplies. About a quarter of the operating budget is needed to provide treated water to augment groundwater supply in meeting water demand. The balance is used to provide program services including conjunctive management and protection of surface and groundwater resources, operation and maintenance of facilities, water conservation, planning and development of recycled water and other alternative sources of supply, as well as administrative and support services.

Water district groundwater and treated water use in FY 2012-13 was slightly higher than the prior year but was roughly 10 percent lower than usage in FY 2007-08 prior to the "Great Recession". The water district

[1] The budget document is available on the district website: www.valleywater.org

continues to focus on cost reductions to compensate for the lowered water revenue. Since 2008, the district has downsized its workforce by 14%.

Despite cost reduction impacts, the water district operated a full groundwater recharge program and met treated water demand with no water quality violations in FY 2012-13. Water conservation program services[2] and outreach activities continued as part of the district's long-term water conservation program. The asset management program and maintenance activities continued, including work at the water district's water treatment plants, pipelines, pump stations, as well as seismic stability evaluations at Calero, Guadalupe, and Almaden dams. The construction of the Silicon Valley Advanced Water Purification Center, which was jointly developed with the cities of San Jose and Santa Clara, was completed in December 2013. Full operation with grand opening ceremonies are planned for spring 2014.

The Silicon Valley Advanced Water Purification Center will improve the recycled water quality for 80% of the recycled water used in this county, which will reduce the threat of contamination of the groundwater basins from increased irrigation uses of nonpotable recycled water. More importantly, this new plant, with the best of technology advances like microfiltration, reverse osmosis and ultra violet light disinfection, will be the key first step towards future potable reuse efforts, as identified in the district's 2012 Water Master Plan. This facility will be the demonstration test site plus the site for public tours to increase community acceptance for potable reuse.

Water district staff have continued to participate in development of the Bay Delta Conservation Plan (BDCP) to improve the District's water quality and water supply reliability while balancing other beneficial uses and contributing towards a sustainable Delta ecosystem. Staff will be evaluating the BDCP Public Review Draft and refining the preliminary assessment of BDCP benefits and costs for Santa Clara County during 2014. Staff expects to provide the board with updates and recommendations before the finalization of the plan scheduled for October 2014.

3-2 FUTURE CAPITAL IMPROVEMENT, OPERATING AND MAINTENANCE REQUIREMENTS

For FY 2014–15, as well as the decades ahead, the highest priority work of the water district's Water Utility is to implement a program of activities to ensure reliable water supplies both now and in the future, to protect local surface water and groundwater supplies, and to meet treated water quality standards. This program of operations, maintenance and capital improvement activities will require continued funding from groundwater production charges and other sources of revenue, as described in Section 4 of this report.

The proposed FY 2014–15 operations and capital programs, as shown in Tables 4-5.1 and 4-5.2, continue to emphasize activities to protect and maintain existing water supplies and assets, and to plan for uncertainties including hydrologic conditions and regulatory restrictions on imported and local supplies. The proposed programs, if funded accordingly, will enable the Water Utility to provide reliable water supplies in the next year as well as in the future. Specific details about the operations program can be found in "The 5-Year Water Utility Enterprise Operations Plan".[3]

[2] The annual Water Use Efficiency Program Year End Report contains a complete description of actions taken by the district and the community in achieving water conservation goals. The report can be found at: www.valleywater.org

[3] The 5-Year Water Utility Enterprise Operations Plan can be accessed at: www.valleywater.org/Services/2014-15GroundwaterChargeProcess.aspx

The current capital program is largely composed of asset renewal and improvement projects. This underscores the importance of protecting and maintaining existing water supplies and assets, as these provide the foundation for meeting current and future supply needs. Dam seismic retrofits and the Rinconada Water Treatment Plant facility renewals and reliability improvements are the largest of the asset renewal projects in the current capital program. Some highlights of the proposed FY 2014-15 capital program are listed next.

Storage:

- Seismic retrofit of Anderson, Calero, and Guadalupe Dams
- Seismic evaluations of Coyote, Chesbro and Uvas Dams
- Rehabilitation of Almaden Dam outlet works

Transmission:

- Raw and treated water pipeline rehabilitation
- Penitencia Delivery Main/Force Main Seismic Retrofit

Water Treatment Plants:

- Seismic retrofits of operations buildings
- Improvements at Rinconada Water Treatment Plant to rehabilitate several critical treatment plant processes and increase plant reliability
- Begin planning and design of fluoridation facilities at the three water treatment plants

Recycled Water:

- Expansion of the recycled water pipeline system in Gilroy to increase usage by approximately 33% or from 2,000 – 3,000 acre-feet per year.

Detailed cost projections for the preliminary FY 2015-19 Capital Improvement Program (CIP) can be found in Section 4-5.

The seismic stability evaluations of Anderson, Almaden, Calero, Lenihan, Stevens Creek and Guadalupe Dams have been completed and the resulting CIP projects are planned and budgeted. The seismic stability evaluation for three remaining dams, Coyote, Chesbro and Uvas, has been initiated in FY 2013-14; the findings may require seismic retrofit work at these locations in the future. In addition to seismic retrofit improvements at the above-listed dams, the conditions of the outlet system, and the adequacy of the spillway and freeboard are being evaluated as well, and will be incorporated into the retrofit work as appropriate. With operating restrictions on a number of water district dams due to seismic deficiencies or questions about seismic adequacy, there may be impacts to current and future operating budgets, such as the need to purchase additional water because of an inability to capture and utilize local runoff or store imported water.

Additional future capital and operating improvements arise from Water Utility planning work. The District's 2012 Water Supply and Infrastructure Master Plan identifies a future water supply strategy that includes 1) investing in existing supplies and infrastructure; 2) optimizing the use of existing supplies and infrastructure; and 3) increasing recycling and conservation. The current capital program supports this strategy as it is largely centered on protecting existing supplies and infrastructure. Operating budget impacts related to implementing this strategy include a new graywater rebate program and planning for expansion of recycled water. Specific future capital projects related to this strategy include restoration of the Main and Madrone pipelines, additional off-stream recharge, and new recycled water facilities.

Another potentially large impact to future operating and capital budgets is the cost to meet environmental permit requirements resulting from the impacts of operations and infrastructure improvements. Among these are the conservation measures needed to fulfill the Three Creeks Habitat Conservation Plans (Three Creeks

HCP) and the Santa Clara Valley Habitat Plan (Valley HP). The Valley HP has been approved. Together, these two plans will meet federal Endangered Species Act (ESA)[4] requirements to protect key species from impacts of routine water supply operations and flood control projects.

The need for the Three Creeks HCP arose from the 1996 listing of steelhead trout as a threatened species under ESA by National Marine Fisheries Service (NMFS). District staff continue to work diligently to obtain approval of the HCP.

The Valley HP is a separate joint effort with the County of Santa Clara, the Valley Transportation Authority and the cities of San Jose, Morgan Hill and Gilroy. The purpose of the Valley HP is to protect and create habitat for endangered terrestrial species in the Guadalupe, Coyote and Pajaro watersheds in Santa Clara County. The Valley HP was fully approved by the water district board and elected officials in early 2013. The regulatory agencies issued the permits in July 2013.

Implementation of the Three Creeks HCP and Valley HP will be a large financial commitment for the water district for decades to come in capital, operating and maintenance budgets. Costs have been estimated for both plans, but have not been completely integrated into the groundwater production charge projections, pending finalization of the two plans. In addition, the mitigation fees for the Valley HP are pay as you go, so costs will vary depending on how much of the covered work is actually carried out. The programmatic – as opposed to project-by-project – approach that habitat conservation plans will provide more certainty in mitigation cost over the permit term, as well as streamlining ESA permitting for covered activities within the respective permit areas.

[4] The Endangered Species Act (ESA) is a federal law to ensure the conservation of threatened and endangered plants and animals and the habitats in which they are found. The ESA prohibits "take" of listed species through direct harm or destruction or adverse modification of designated critical habitat of such species. In the 1982 ESA amendments, Congress authorized the federal ESA implementing agencies, U.S. Fish and Wildlife Service and National Marine Fisheries Service, through the Secretary of the Interior, to issue permits for the "incidental take" of listed species before permittees could proceed with an activity that is legal in all other respects but would result in the incidental taking of a listed species. Prior to issuance of "take" permits, permit applicants are required to design, implement, and secure funding for a conservation plan that minimizes and mitigates harm to the impacted species during the proposed project. That plan is commonly called a Habitat Conservation Plan (HCP). HCPs are legally binding agreements between the U.S. Secretary of the Interior or Commerce and the permit holder.

The California Endangered Species Act (CESA) is the state equivalent of the federal ESA. It states that all native species and habitats of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. CESA also allows for take incidental to otherwise lawful development projects. The state Department of Fish and Game is the CESA implementing agency, authorized to issue permits and memorandum of understanding.

4-1 INTRODUCTION

This section summarizes the recommended charges for fiscal year (FY) 2014–15 and the multi-year financial analysis that serves as the foundation for the recommended water charges in each zone. The major sources of revenue for the Water Utility are from the imposition of charges on groundwater production and from contracts for the sale of treated surface water produced by its three treatment plants. The water district also receives revenue from surface water charges, recycled water charges, property tax, interest earnings, grants, capital reimbursements and other sources. The water district assesses the need for groundwater production and other water charges annually and, in accordance with state law, prepares this report to describe the activities undertaken to provide a water supply, along with the associated capital, maintenance, and operating requirements.

The Rate Setting Process

According to Section 26.3 of the District Act, proceeds from groundwater production charges can be used for the following purposes:

1. Pay for construction, operation and maintenance of imported water facilities
2. Pay for imported water purchases
3. Pay for constructing, maintaining and operating facilities which will conserve or distribute water including facilities for groundwater recharge, surface distribution, and purification and treatment
4. Pay for debt incurred for purposes 1, 2 and 3.

The work of the water district is divided into projects. Every project has a project plan which is prepared by the project manager. The project plan is a detailed description of the project including objectives, milestones, and an estimate of resources needed to deliver the project. To ensure compliance with the District Act, each project plan contains a justification as to whether or not groundwater production charges can be used to pay for the activities associated with it. The financial analysis presented in this report is based on these project plans.

This year's groundwater production and surface water charge setting process will be conducted consistent with the District Act, Board Resolutions 99-21, 12-10 and 12-11[1], as well as Proposition 218's requirements for property-related fees for water services. The water district maintains that the groundwater production and surface water charges are not legally subject to Proposition 218 requirements. Whether legally bound or not, the water district is committed to a transparent water charge setting process.

The water district has conducted a formal protest procedure of the proposed groundwater production charge increase for the past four years and of surface water charges for the past two years. Last year, the results of the groundwater production charge protest procedure were that in the North County Zone W-2, no more than 1.3 percent of well operators or property owners protested the proposed groundwater production charges, while in the South County Zone W-5, no more than 0.4 percent of well operators or property owners protested. There were no protests by surface water account holders or property owners. FY 2014–15 will be the fifth year in which the process includes a formal protest procedure to allow well operators and property owners to decide whether the board may authorize an increase to the existing groundwater production charges. It will be the

[1] Resolutions 99-21, 12-10, and 12-11 can be found at http://www.valleywater.org/Services/2014-15GroundwaterChargeProcess.aspx

third year that a protest procedure will be implemented for surface water users. As in the past, the board will continue to hold public hearings and seek input from its advisory committees and the public before rendering a final decision on groundwater production and surface water charges for FY 2014–15.

In late 2009, the water district engaged Raftelis Financial Consultants, Inc. (RFC) to review the water district's cost of service and rate setting methodology used to calculate groundwater production charges for FY 2010–11. RFC has conducted over 600 rate and financial planning studies for water and wastewater utilities across the country. Specifically, RFC reviewed the cost of service and financial planning model developed by the water district to calculate groundwater production charges for FY 2010–11. RFC reviewed the water district's rate setting methodology for consistency with industry standards, best practices, and legal considerations such as Proposition 218, the District Act, and Resolution 99-21. The methodology used to calculate groundwater production charges for FY 2010–11 is detailed in RFC's report titled "Review of the Santa Clara Valley Water District's Cost of Service and Rate Setting Methodology for Setting FY 2011 Groundwater Production Charges"[2]. The report demonstrates that the water district developed groundwater production charges and other charges consistent with cost of service principles and legal considerations including Proposition 218, the District Act, and Resolution 99-21. The water district will use the same cost of service methodology for the FY 2014–15 rate setting process.

In 2010, the water district engaged RFC and the water resources engineering firms of Hydrometrics Water Resources and Carollo Engineers to further analyze and quantify the conjunctive use benefit of treated water to groundwater and surface water customers. In addition, RFC analyzed the benefits of agricultural water usage to M&I users. This report titled "Report Documenting the Reasonableness of the Conjunctive Use Benefit of Treated Water to Groundwater and Surface Water Customers and the Benefit of Agricultural Customers to Municipal and Industrial Customers"[3] provides further support and justification for the water district's cost of service methodology.

Overview of Customer Classes and Charges

As the wholesale water provider for Santa Clara County, the District serves 4 customer classes including, groundwater users, treated water users, surface water users and recycled water users. Resolution 99-21 guides staff in the development of the overall pricing structure based on principles established in 1971. The general approach is to charge the recipients of the various benefits for the benefits received. More specifically, pricing is structured to manage surface water, groundwater supplies and recycled water conjunctively to prevent the over use or under use of the groundwater basin. Consequently, staff is very careful to recommend pricing for groundwater production charges, treated water charges, surface water charges and recycled water charges that work in concert to achieve the effective use of available resources (as supported by the 2010 RFC study).

Groundwater users pump water from the ground that is both naturally and artificially recharged into the groundwater basin. The groundwater production charge recoups the District's costs to protect and augment this source of water, as outlined in the District Act.

Treated water users are comprised of 7 retail water companies that take treated surface water from one of the District's 3 treatment plants and sell it to the end customer. The water comes from locally captured or imported water. The District recoups the cost of providing treated water by charging users the basic user charge, which

[2] The initial RFC report, dated March 5, 2010 can be found at http://www.valleywater.org/Services/2014-15GroundwaterChargeProcess.aspx

[3] The second RFC report, dated February 17, 2011 can be found at http://www.valleywater.org/Services/2014-15GroundwaterChargeProcess.aspx

is set equivalent to the groundwater production charge, and a treated water surcharge. The provision of treated water helps preserve the groundwater basin and therefore benefits groundwater users. This fact provides the rationale for setting the basic user charge equal to the groundwater production charge in accordance with cost of service principles as justified by the 2011 RFC study. The treated water surcharge is set by board policy at an amount that promotes the effective use of available water resources.

Surface water users are those users permitted by the District to tap raw surface water from creeks, streams or pipelines. To the extent the District releases water from its reservoirs that is non-natural flow, the District considers this to be surface water, which is not subject to riparian rights. Non-natural flow reservoir releases and imported water are made available to District surface water permittees. Surface water users pay the basic user charge, which is set equivalent to the groundwater production charge, plus a surface water master charge. The basic user charge helps pay for the cost to manage and augment surface water supplies and is set equal to the groundwater production charge because surface water is considered in-lieu groundwater usage. The surface water master charge pays for costs that are specific to surface water users only, including the work to operate surface water turnouts, and maintain surface water accounts.

Recycled water users are those users who take purified wastewater for irrigation purposes. Recycled water is an all weather supply. Recycled water charges are established at rates that maximize cost recovery while providing an economic incentive to use recycled water. The provision of recycled water helps preserve the groundwater basin and therefore benefits groundwater users. Consequently, groundwater users pay for recycled water to the extent that recycled water charges do not achieve full cost recovery.

These customer classes are further broken down between agricultural users and non-agricultural users (also referred to as Municipal and Industrial users). Agricultural users are a subset of the groundwater, surface water and recycled water customer classes. Section 26.1 of the District Act defines agricultural water use as “water primarily used in the commercial production of agricultural crops or livestock.” Agricultural charges are limited to a maximum of 25% of non-agricultural charges per the District Act. Board policy further limits agricultural charges to no more than 10% of non-agricultural charges in order to help preserve open space. Non-rate related revenue is used to offset lost agricultural water revenue for each customer class and is referred to as the Open Space Credit. Non-agricultural users are a subset of all 4 customer classes and consist of all water use other than agricultural. Non-agricultural water use charges are established for each customer class as described in the preceding paragraphs.

4-2 THE WATER CHARGE RECOMMENDATIONS FOR FISCAL YEAR 2014–15

Last year, FY 2013–14, the board chose to increase groundwater production charges in both zones of benefit. In the North County Zone W-2, the board adopted a $680 per acre-foot groundwater production charge for non-agricultural water, $18.30 per acre-foot for agricultural water, and $780 per acre-foot for contract treated water. In the South County Zone W-5, the board adopted a $305 per acre-foot groundwater production charge for non-agricultural water, and $18.30 per acre-foot groundwater production charge for agricultural water.

To maintain affordable rates, 122 positions, or 14 percent of the workforce, have been eliminated district-wide over the past six years, discretionary reserves have been drawn down to minimum per policy, temporary staff and overtime have been reduced significantly, and some projects have been canceled or delayed. In addition, the District negotiated agreements with its employee unions in December 2011. Due to these negotiations, employees have been contributing 15 percent of their health care premiums since April 2012. Also, employees have been contributing an additional 1.1 percent, for a total of 11 percent of their salary, toward the California Public Employees Retirement System.

Despite these cost savings, the district must invest significant capital dollars into repairing and rehabilitating the infrastructure that keeps water flowing uninterrupted to your tap. The water district is increasing rates in order to significantly invest in several key areas to help ensure a reliable supply of clean water for Silicon Valley's present and future economic, environmental and social well being.

The investments include:

- $1 billion over the next 10 years for repair, rehabilitation and seismic retrofitting of the system behind your water supply, including treatment plants, pipelines, pump stations, dams and recharge ponds.
- $228 million over the next 10 years to solve the statewide issue of the Bay Delta, where 40 percent of our water supply travels through. A catastrophic event in the Delta could interrupt this vital supply of water to Santa Clara County for up to two years or more.
- $139 million over the next 10 years to develop new supplies that help ensure future sustainability. Recently completed planning efforts show that additional water supply investments will be needed in the future to accommodate and support the local economy and population.

The increase will bring in the revenue to cover rising operating costs and to pay for critical investments in the water supply infrastructure, imported water supply reliability and for future supplies.

For FY 2014–15 in the North County, staff recommend a 9.9 percent increase, or $747 per acre-foot groundwater production charge for non-agricultural water; 4.6 percent increase, or $19.14 per acre-foot for agricultural water; 8.6 percent increase, or $847 per acre-foot for contract treated water; and 18.8 percent increase or, $897 per acre-foot for non-contract treated water. The average household would experience an increase in their monthly bill of $2.31 or about 8 cents a day.

In the South County, staff recommend a 4.6 percent increase to both non-agricultural and agricultural water. This results in a $319 per acre-foot groundwater production charge for non-agricultural water, and $19.14 per acre-foot groundwater production charge for agricultural water. The average household would experience an increase in their monthly bill of $0.48 or about 2 cents per day.

Staff recommend increasing the surface water master charge by 21.5 percent, from $15.31 per acre-foot to $18.60 per acre-foot, in order to bring revenues in closer alignment with the costs related to managing, operating and billing for surface water diversions.

For recycled water, staff recommend increasing the M&I charge by 4.9 percent to $299 per acre-foot. For agricultural recycled water, staff recommend a 2.0 percent increase to $42.94 per acre-foot. This increase maximizes cost recovery while concurrently providing an economic incentive to use recycled water.

Figure 4-2.1 illustrates the multi-year groundwater production charge projection. It reflects a range of potential groundwater production charges over the next ten years depending on the level of service to be provided. The high end of the range (line immediately above the shaded areas) represents the groundwater production charges required to fund all of the operations and capital projects identified by staff to meet the board's Ends Policies over the next few years. The potential impacts of not funding the high end of the range include increased risk of (1) service interruptions, (2) higher corrective maintenance costs to repair facilities that have not been well maintained and (3) reduced ability to respond to drought. While staff has identified as many projects as possible, there are initiatives and/or potential future uncertainties that could result in the identification of additional capital or operations projects that are not reflected in the high end of the range.

The lower end of the range (line immediately below the shaded areas) represents staff's recommended groundwater production charges for FY 2014–15 and the corresponding future trajectory based on the assumption that operating services will either continue at or below the level budgeted in FY 2013–14.

Figure 4-2.1 Ten Year Projection

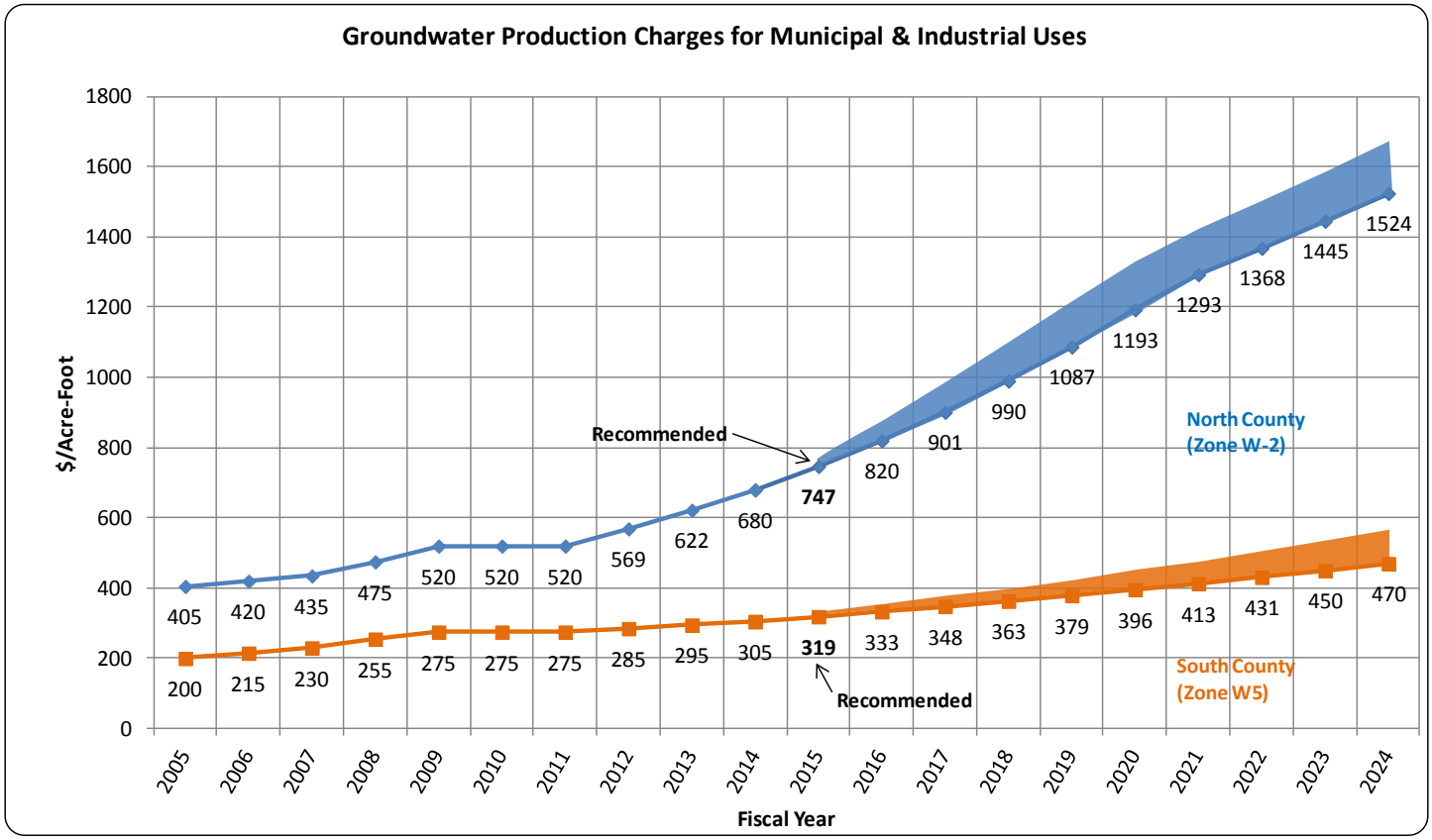


Table 4-2.1 shows groundwater production and other charges in fiscal years 2012–13 and 2013–14. The final column contains the recommended water charges for FY 2014–15, which are in accordance with the pricing policy described in Resolution 99-21.

Table 4-2.1 Summary of Charges (Dollars Per Acre-Foot, $/AF)

	Dollars Per Acre Foot		
	FY 2012–13	FY 2013–14	Recommended FY 2014–15
Zone W-2 (North County)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	622.00	680.00	747.00
Agricultural	17.70	18.30	19.14
Surface Water Charge			
Surface Water Master Charge	12.60	15.31	18.60
Total Surface Water, Municipal & Industrial*	634.60	695.31	765.60
Total Surface Water, Agricultural*	30.30	33.61	37.74
Treated Water Charges			
Contract Surcharge	100.00	100.00	100.00
Total Treated Water Contract Charge**	722.00	780.00	847.00
Non-Contract Surcharge	50.00	75.00	150.00
Total Treated Water Non-Contract Charge***	672.00	755.00	897.00
Zone W-5 (South County)			
Basic User/Groundwater Production Charge			
Municipal & Industrial	295.00	305.00	319.00
Agricultural	17.70	18.30	19.14
Surface Water Charge			
Surface Water Master Charge	12.60	15.31	18.60
Total Surface Water, Municipal & Industrial*	307.60	320.31	337.60
Total Surface Water, Agricultural*	30.30	33.61	37.74
Recycled Water Charges			
Municipal & Industrial	275.00	285.00	299.00
Agricultural	41.50	42.10	42.94

*Note: The total surface water charge is the sum of the basic user charge (which equals the groundwater production charge) plus the water master charge

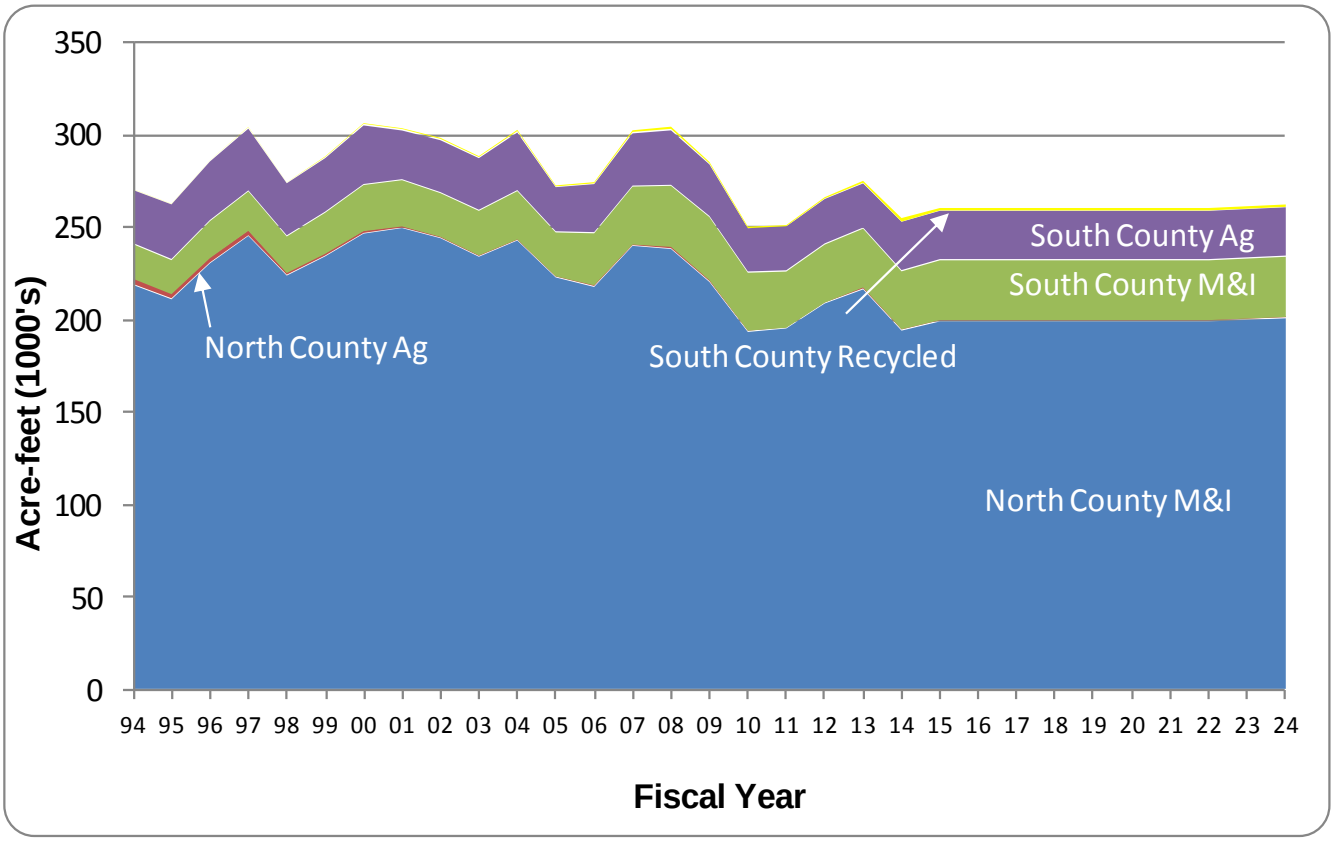
**Note: The total treated water contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the contract surcharge

***Note: The total treated water non-contract charge is the sum of the basic user charge (which equals the groundwater production charge) plus the non-contract surcharge

Figure 4-2.2 illustrates historical and projected water district water use, which is a key driver of the water district's water revenue. Water usage in FY 2012–13 is estimated at approximately 275,000 AF, which is 26,100 AF higher than budgeted and 8,900 AF higher than the actual water usage recorded in FY 2011–12 of 266,100 AF. The water usage for FY 2013–14 is budgeted at 255,000 AF but has been on track to exceed 285,000 AF due to the rebounding economy and dry weather. However, on January 17, 2014, the Governor declared a drought emergency. Implementation of water use reduction measures pursuant to the District's Water Shortage Contingency plan are expected to reduce water usage for FY 2013–14 relative to the current trend, and to also impact water usage for FY 2014–15. Staff have assumed a water usage projection for FY

2014–15 of 260,000 AF, which is roughly 10 percent lower than projected water usage for FY 2013–14 prior to the implementation of water use reduction measures. Water use is projected to ramp up to 262,300 AF by FY 2023–24.

Figure 4-2.2 Historical and Projected Water District Water Use



4-3 FINANCIAL OVERVIEW OF THE WATER DISTRICT

The water district uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. Fund accounting allows government resources to be segregated and accounted for according to their intended purposes. Accounts related to activities of the Water Utility are segregated into the Water Utility Funds comprised of the Water Utility Enterprise Fund and the SWP Fund. For the Water Utility Enterprise Fund, revenue accounts include: groundwater production, treated water, property taxes, surface water, interest earnings, reimbursements, grants and other. Cost accounts include both direct and indirect or overhead costs associated with Water Utility projects and activities. The SWP Fund accounts specifically for SWP Tax revenue and SWP contractual costs (Note that SWP Tax revenue can only be spent on SWP contractual costs). Table 4-3.1 shows an overview of the funds at the water district including the Water Utility Funds and the estimated revenues, costs and reserves for FY 2014–15 for each fund. Throughout this report, the term “Water Utility” or “Water Utility Enterprise” refers to the combination of the Water Utility Enterprise Fund and the SWP Fund.

Table 4-3.1 FY 2014–15 Projected Funds Analysis

	Water Utility Funds				
	Water Utility	State Water	Safe, Clean Water	Watershed	Administration
(Millions $)	Enterprise Fund	Project Fund	Fund	Funds	Funds
Revenue	178.8	22.0	56.6	110.1	5.7
Interfund Transfer	(3.6)	-	2.3	(4.7)	6.8
Ops Costs	(122.7)	(22.5)	(10.7)	(47.3)	(61.0)
Debt Svc	(21.2)	-	(1.7)	(13.2)	(0.6)
Capital	(136.6)	-	(97.6)	(54.9)	(15.2)
Debt Proceeds	109.9	-	79.4	-	-
Intra-District Reimb.[1]	-	-	-	-	60.8
Balance	**4.5**	**(0.5)**	**28.4**	**(10.0)**	**(3.6)**
Reserves					
Restricted	25.1	0.2	92.2	-	-
Committed	38.2	-	-	79.0	3.0
Designated Liability	7.1	-	-	-	12.5
Total Reserves	**70.4**	**0.2**	**92.2**	**79.0**	**15.5**

Notes:

[1] Intra-District Reimbursements represent overhead costs that have been allocated to the Water Utility; Safe, Clean Water; and Watersheds (included in the operations and capital costs for those funds)

The Safe, Clean Water Fund accounts for a 15-year program that was approved by the voters in November, 2012 for the purpose of addressing several community priorities. These priorities include: securing a safe, reliable water supply; protecting our water system from earthquakes and natural disasters; preventing contaminants from entering the water supply; restoring habitat for fish, birds and wildlife and increasing open space; and enhancing flood protection. The primary source of revenue for this fund is a special parcel tax. This fund supports several projects that benefit not only the community at large but also the Water Utility including hazardous materials management, water conservation grants, rebates to remove excess nitrate from drinking water, and stormwater runoff management. Most notably this fund will contribute $67 million toward the Anderson Dam Seismic retrofit project in the form of a reimbursement to the Water Utility Enterprise Fund. It will also apportion some of the revenue towards the Treated Water Pipeline Reliability and Main/Madrone Avenues Pipeline Restoration projects. For more information on the Safe, Clean Water program please visit www.valleywater.org.

The Watershed Funds are a segregated grouping of funds with separate funding sources (including Benefit Assessments and 1 percent ad valorem property taxes) for the purpose of providing flood protection and watershed management.

The Administration Funds include the General Fund, Equipment Fund, Information Technology Fund, and Risk Fund to account for all revenues and expenditures necessary to carry out basic governmental activities of the water district that are not accounted for through other funds. Administration Funds expenditures that are not offset by Administration Funds revenues are allocated to the Water Utility; Safe, Clean Water; and Watershed funds through an overhead rate at the project level.

4-4 WATER UTILITY FINANCES FOR FISCAL YEARS 2012–13 & 2013–14

Fiscal Year 2012– 13

Actual overall revenue for FY 2012–13 was $22.7 million more than the adopted budget. This additional revenue was due primarily to higher treated water and groundwater usage that resulted in $10.4 million and $6.6 million more than budgeted, respectively. The surplus was also due in part to $1.4 million of higher property tax revenue and $1.8 million of capital reimbursements. Further, $2.3 million of unbudgeted imported water revenue was received in this fiscal year.

Actual operations outlays came in at $152.5 million and were $6.1 million lower than the adjusted budget. The savings were driven by about $1.5 million in the Silicon Valley Advanced Water Purification center operations and maintenance, $0.9 million in Water conservation projects, $0.8 million in the water treatment plant operations, $0.8 million in Fisheries and Aquatic Habitat Collaborative Effort/Three Creeks HCP, and $2.1 million net cost savings in various other projects.

Unspent capital budget was carried forward to FY 2013–14 consistent with accounting practices.

Fiscal Year 2013– 14

Assuming FY 2012–13 seasonality, current estimates for FY 2013–14 show revenue trending between $7 million and $17 million above budget, depending on the impact of water use reduction measures and whether or not it is a dry or wet spring.

4-5 OVERVIEW OF OPERATING AND LONG-TERM CAPITAL PLANS

To develop a charge structure that will support planned work, staff analyzes the immediate needs of the water district as well as anticipated requirements in the years to come.

Operating Outlays

Operations costs are projected to increase at an average of 5.8 percent per year over the next ten years. The increase is driven by anticipated inflation, cost increases associated with employee salaries and benefits, the Bay Delta solution, efforts to develop new supplies that help ensure future sustainability and rising costs associated with regulatory requirements.

Table 4-5.1 shows the water district's Water Utility operating program for FY 2012–13, FY 2013–14, and projected for FY 2014–15. Specific details about the programs and projects funded within the water utility can be found in "The 5-Year Water Utility Enterprise Operations Plan[4]." The Water Utility Enterprise strives to implement a program that ensures that treated water quality standards are met and that water supplies are reliable to meet current and future demand.

[4] The 5-year Water Utility Enterprise Operations Plan can be accessed at http://www.valleywater.org/Services/2014-15GroundwaterChargeProcess.aspx

Table 4-5.1 Operating Budget Summary

		Thousands $			
Cost Center	Ends Policy	Actuals FY 13	Adjusted FY 14	Projected FY 15	Description of Cost Centers and Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	77,926	76,551	76,357	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs. Activities include: groundwater level & quality monitoring; groundwater modeling; dams and reservoir operations & maintenance; imported water supply management; long-term Delta issues resolution; operations and maintenance of San Felipe Reaches 1-3, including mechanical, electrical and SCADA; operations planning; water rights protection; Urban Water Management Plan; administration of recycled water agreements, technical studies, recycled water rebates; water conservation technical assistance, financial incentives, outreach and education; environmental planning & compliance; well permitting and destruction; Silicon Valley Advanced Water Purification Center operations and maintenance; and habitat conservation and mitigation commitments.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	9,382	11,184	10,625	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems. Activities include: operations and maintenance of recharge ponds, canals, pipelines & diversions including vegetation management; operations and maintenance of raw water distribution system, including mechanical, electrical and SCADA; raw water corrosion control; environmental compliance support.
Water Treatment and Treated Water Transmission & Distribution	E-2.3 Reliable High Quality Water is Delivered	31,407	34,515	36,762	These cost centers contain all expenditures associated with the treatment of water at the Rinconada, Penitencia and Santa Teresa Water Treatment Plants, as well as those expenditures related to the distribution of treated water to retail customers and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts. Activities include: operations and maintenance of 3 water treatment plants; Water District laboratory operations; water quality planning, testing, research, and reporting; operations and maintenance of treated water transmission and distribution system; and recycled water T&D general maintenance.
Administration & General	Support Services	18,271	20,652	21,508	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Activities include: asset protection evaluation and planning; integrated regional water management plan; water system computer modeling; urban runoff pollution prevention; general & division management; performance measures; financial support & water charge setting; customer relations; health and safety training; billing; data maintenance; auditing; meter reading, testing, repair, installation, backflow prevention; emergency services; warehouse and equipment services; real estate services; and ethics & diversity
	Total Program Requirements	**136,986**	**142,902**	**145,252**	

Capital Improvements Plans

The water district constructs, operates and maintains reservoirs, pipelines, recharge facilities, and water treatment plants that are needed to achieve the board's Ends Policies. On an annual basis, the water district conducts a process to plan for capital improvements and identify the resource needs and constraints to implement the projects. The result of this process is board approval of a 5-Year Capital Improvement Program (CIP)[5].

Table 4-5.2 shows the capital projects identified in a preliminary version of the FY 2014–15 CIP and associated expenditures for the next ten fiscal years. The table shows funding nearly $1.1 billion (inflated) worth of capital projects between FY 2014–15 and FY 2023–24. A large portion of the capital program is dedicated to asset management of Water Utility Enterprise facilities throughout the county and is based on a program to provide a better basis for identifying long-term capital rehabilitation and replacement needs. Staff continues to conduct a validation process as part of the water district's Asset Management Program, to identify if there is a compelling business case for capital projects. All newly-proposed projects will undergo the validation process prior to being proposed for inclusion in the CIP.

[5] The latest CIP can be accessed at www.valleywater.org/CIP.aspx

Table 4-5.2 Capital Improvements Projects – Fiscal Years 2014–15 Through 2023–24

	Planned Funding with Inflation (Thousands $)						
Name	FY15	FY16	FY17	FY18	FY19	FY 20-24	Total FY 15-24
Dam Safety Program Seismic Stability*	6,524						**6,524**
Calero and Guadalupe Dams Seismic Retrofits	7,270	1,533	14,428	57,865	10,950	620	**92,666**
South County Recycled Water Pipeline - Short-Term Implementation Phase 1B*	3,124	6,164	163				**9,451**
South County Recycled Water Fund*	4,590	104	1,061				**5,755**
Central Valley Project Capital Payments*	7,920	8,200	8,764	9,354	9,683	53,773	**97,695**
Silicon Valley Advanced Water Purification Center	1,477						**1,477**
Small Capital Improvements, San Felipe Reach 1*			129	585	949	1,733	**3,396**
Small Capital Improvements, San Felipe Reach 2*		71			113		**184**
Small Capital Improvements, San Felipe Reach 3*	1,601	798	5,186		377	3,125	**11,087**
Wolfe Road Recycled Water Pipeline	11,593	238					**11,831**
Almaden Dam Improvements	1,213	12,222	9,426	6,029	148		**29,038**
Anderson Dam Seismic Retrofit*	6,460	21,308	38,267	60,704	43,424		**170,163**
Prj 3 - North County Recharge from IWRP 2003					1,663	23,464	**25,127**
Prj 17 - Indirect Potable Reuse Recharge – Los Gatos Ponds					13,159	87,276	**100,435**
Prj 38 - Lexington Pipeline					1,208	12,698	**13,906**
Source of Supply Subtotal	**51,772**	**50,638**	**77,424**	**134,537**	**81,675**	**182,690**	**578,735**
Pacheco/Santa Clara Conduit Right of Way Acquisition*	178	64	105				**347**
Penitencia Force Main Seismic Retrofit	333	5,559					**5,892**
SCADA Remote Architecture & Communications Upgrade*		28	405	818	776	3,780	**5,807**
Alamitos Diversion Dam Improvements				308			**308**
Coyote Diversion Dam Improvements			600	1,187			**1,787**
Small Capital Improvements, Raw Water Transmission*	440	191		124		619	**1,374**
FAHCE Stevens Creek Moffett Ave Fish Ladder - 90%		998	1,716				**2,714**
FAHCE Stevens Creek Multi-Port Outlet at Dam - 90%		255	941				**1,196**
TC HCP Implementation Fund		1,604	4,472	4,112	14,423	120,497	**145,108**
Main & Madrone Pipelines Restoration (Xfer to Fund 26)*			3,269				**3,269**
Raw Water Transmission & Distribution Subtotal	**951**	**8,699**	**11,509**	**6,549**	**15,199**	**124,896**	**167,803**
Capital Training and Development*	289	315	373	415	421	2,181	**3,994**
CIP Development & Admin*	574	624	740	822	835	4,325	**7,920**
Survey Tech Support*	111	123	194	214	203	1,179	**2,024**
Capital Program Services Admin*	1,653	1,827	2,874	3,167	3,015	17,486	**30,022**
Technical Review Committee*	318	346	410	455	463	2,397	**4,389**
Capital Health & Safety Training*	166	180	213	237	241	1,247	**2,284**
5-Year Pipeline Rehabilitation*	6,341	3,812	4,696				**14,849**
SCW Implementation Fund-Regionally Significant Habitat Land Acquisition*	577	600	624	649	675	3,801	**6,926**
Winfield Capital Improvements (assume 60% WU)*	4,546	373					**4,919**
PeopleSoft System Upgrade & Expansion (assume 60% WU)*	721	469	426	175			**1,791**
Headquarters Operations Building (assume 60% WU)*	131	479	1,388	7,964			**9,963**
IT Disaster Recovery (assume 60% WU)*	125	223	162				**509**
Projected Carryforward*	15,444						**15,444**
Administration and General Subtotal	**30,998**	**9,370**	**12,100**	**14,098**	**5,854**	**32,615**	**105,035**

Note: The asterisked projects would benefit the South County, Zone W-5, and therefore would be funded in part or in whole by the South County.

Table 4-5.2 Capital Improvements Projects – Fiscal Years 2014–15 Through 2023–24 (Continued)

	Planned Funding with Inflation (Thousands $)						
Name	FY15	FY16	FY17	FY18	FY19	FY 20-24	Total FY 15-24
Fluoridation at WTPs	855	5,010	658				**6,523**
PWTP Water Pumps Modification	151	346	85				**582**
PWTP Clearwell Recoating & Repair	2,982	316	48				**3,346**
STWTP Incompatible Materials	157						**157**
RWTP FRP Residuals Management Modifications	1,038	919	264				**2,221**
RWTP Treated Water Valves Upgrade	130	617	79				**826**
RWTP Reliability Improvement	47,081	58,845	54,818	42,489	145		**203,378**
Infrastructure Reliability*	474	425	1,490	1,550	4,084	12,065	**20,088**
IRP2 WTP Ops Bldgs Seismic Retrofit	2,971	443	101				**3,515**
Small Capital Improvements, Water Treatment	2,201	1,811	1,830	1,540	3,651	14,452	**25,485**
Water Treatment Subtotal	**58,040**	**68,732**	**59,373**	**45,579**	**7,880**	**26,517**	**266,121**
Water Protection*	62						**62**
Penitencia Delivery Main Seismic Retrofit	339	5,559					**5,898**
Small Capital Improvements, Treated Water Transmission		56			91		**147**
Treated Water Transmission & Distribution Subtotal	**401**	**5,615**	**0**	**0**	**91**	**0**	**6,107**
TOTAL FUNDED	**142,162**	**143,054**	**160,407**	**200,763**	**110,699**	**366,718**	**1,123,801**

Note: The asterisked projects would benefit the South County, Zone W-5, and therefore would be funded in part or in whole by the South County.

Table 4-5.3 shows the lower priority or deferred capital projects that are not funded under the recommended charges for FY 2014–15. The postponed capital projects total approximately $215 million (inflated) over the next ten years. A higher groundwater production charge projection would be necessary to fund these postponed capital projects.

Table 4-5.3 List of Capital Projects Postponed Indefinitely

	Planned Funding with Inflation (Thousands $)						
Name	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10	Total Yr 1-15
SCADA[1.] Small Capital Improvements - Source of Supply*	55	448	466	786	791	2,932	**5,478**
San Luis Reservoir Low Point Improvement - Design and Construction*	151	433	10,306	16,020	11,041	5,631	**43,582**
Dam Seismic Stability at 2 Dams (Chesboro & Uvas)*	0	0	17,900	17,900	17,900	35,800	**89,500**
Coyote Pumping Plant Warehouse*	416	216	2,595				**3,227**
Land Rights - South County Recycled Water PL*	0	541	2,643	2,632			**5,816**
Vasona Pumping Plant Upgrade	0	400	1,091	1,860	17,516	89	**20,956**
Coyote Pumping Plant ASD Replacement	520	1,806	8,793	4,579			**15,698**
Source of Supply Subtotal	**1,142**	**3,844**	**43,794**	**43,777**	**47,248**	**44,452**	**184,257**
SCADA[1.] Small Capital Improvements - RW Trans & Dist*	61	499	519	875	881	3,265	**6,100**
Santa Clara Tunnel Leakage and Pacheco Conduit Dewater*	471	232	2,689				**3,392**
Raw Water Transmission & Distribution Subtotal	**532**	**731**	**3,208**	**875**	**881**	**3,265**	**9,492**
SCADA[1.] Small Capital Improvements - Water Treatment	180	1,476	1,535	2,586	2,605	9,652	**18,034**
Water Treatment Subtotal	**180**	**1,476**	**1,535**	**2,586**	**2,605**	**9,652**	**18,034**
Fleet and Facility Annex Improvements (assume 60% WU)*	552	2,077	202				**2,831**
Administration and General Subtotal	**552**	**2,077**	**202**	**0**	**0**	**0**	**2,831**
TOTAL UNFUNDED	**2,405**	**8,128**	**48,739**	**47,238**	**50,735**	**57,369**	**214,614**

1. Supervisory Control and Data Acquisition

Note: The asterisked projects would benefit the South County, Zone W-5, and therefore would be funded in part or in whole by the South County.

4-6 FINANCES

Financing and Bond Rating

To fund the construction of new facilities, the water district has historically relied on both pay-as-you-go financing and long-term debt financing as authorized by the voters in 1984. Water utility debt service will increase by roughly $5.2 million in FY 2014–15 due to full utilization of the $100 million commercial paper program and a planned long-term debt issuance. Looking forward, capital improvement needs total nearly $1.1 billion (in inflated dollars) for the ten fiscal years 2014–15 through 2023–24. As shown in Figure 4-6.1, the water district will see debt service rise from $21 million in FY 2014–15 to roughly $72 million in FY 2023–24 as a result of periodic debt issuances to fund capital projects. Total outstanding debt (excluding general obligation bonds) is shown in Figure 4-6.2 and is projected to increase from $411 million in FY 2014–15 to $819 million in FY 2023–24. This outstanding debt could be significantly higher if all postponed capital projects were funded. Conversely, the debt could also be reduced if projects are reduced or further external funding is found.

Figure 4-6.1 Projected Debt Service

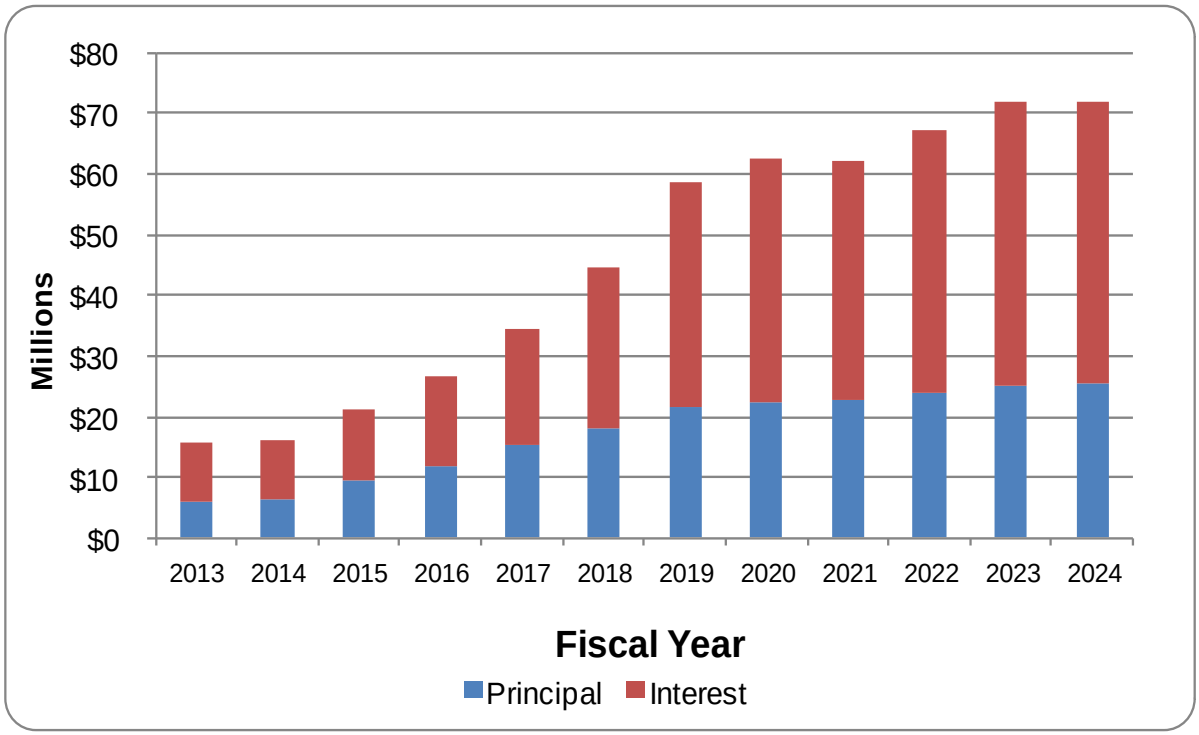
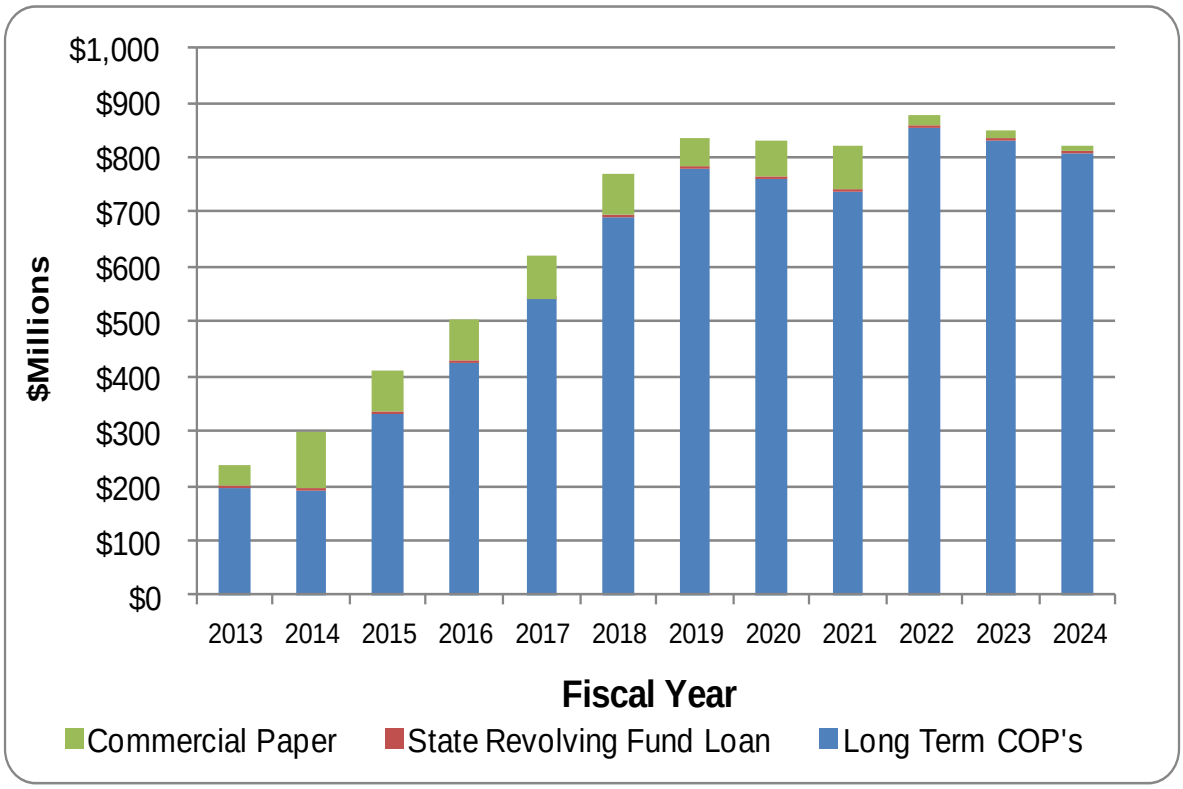


Figure 4-6.2 Projected Outstanding Debt



Current Water Utility debt issuances are rated Aa1 from Moody's and AA from Standard & Poor's. These ratings reflect the water district's strong financial position and the highly rated creditworthiness of water district issued securities. The ratings are among the highest for a water-related governmental entity in the state of California, which helps keep interest costs borne by the water district at a minimum.

According to the three credit rating agency reports, the drought will not have an impact to credit ratings in the near-term. However, a prolonged drought may pressure credit ratings for California water utilities, thereby driving up the overall cost of financing projects.

Water Utility Funds Projected Proforma

Table 4-6.1 shows the projected revenues, expenditures, and reserves over the next ten years for the Water Utility Funds. By financing with a combination of debt, current year revenue, and reserves, the water district is able to meet its capital investment plan. Under the recommended projection, the financial model assumes that discretionary reserves (the operating and capital reserve plus the supplemental water supply reserve) are maintained at minimum per district policy. The minimum per policy for these reserves equates to having just under 3 months worth of Water Utility operating outlays in the bank. These reserves serve several purposes including: to meet cash flow needs; provide emergency funding; and to provide a funding source for future operating and capital needs. The water district's reserve policy can be found within the Financial Summaries section of the FY 2013–14 Budget document.[6]

The financial model under the recommended projection reflects a senior Lien Debt Service Coverage Ratio ranging between 1.80 and 2.81 through FY 2023–24. Targeting a ratio of 2.0 or better helps to ensure financial stability and continued high credit ratings.

[6] The FY 2013-14 Budget document is located at http://www.valleywater.org/About/Finance.aspx.

Table 4-6.1 Ten-Year Water Utility Plan – ($ in Thousands)

	Actual	Adj Budget	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Operating Revenues												
Groundwater Production Charges	$62,084	$63,035	$80,994	$79,311	$86,545	$94,444	$103,041	$112,420	$121,300	$128,137	$135,609	$143,360
Surface & Recycled Water Charges	$1,275	$1,571	$1,603	$1,744	$1,901	$2,074	$2,246	$2,433	$2,610	$2,751	$2,898	$3,050
Treated Water Charges	$92,359	$89,699	$88,088	$105,800	$115,115	$125,350	$136,505	$148,695	$160,195	$168,820	$178,567	$188,681
Other	$2,685	$570	$460	$460	$460	$460	$460	$460	$460	$460	$460	$460
Inter-governmental Services	$1,926	$2,286	$966	$902	$915	$934	$705	$723	$736	$751	$771	$785
Total Operating Revenue	**$160,329**	**$157,161**	**$172,111**	**$188,217**	**$204,936**	**$223,262**	**$242,957**	**$264,731**	**$285,301**	**$300,919**	**$318,305**	**$336,336**
Non-Operating Revenues												
Property Taxes	$24,200	$25,554	$25,645	$25,808	$26,976	$30,150	$34,330	$35,517	$38,244	$40,910	$44,117	$46,331
Interest	$1,839	$525	$343	$550	$780	$1,050	$1,366	$1,691	$2,029	$2,415	$2,863	$3,291
Capital Contributions	$4,610	$3,409	$1,396	$11,361	$4	$1,278	$1,379	$1,459	$1,250	$0	$23	$0
Semitropic Sales	$0	$0	$0	$0	$0	$0	$7,234	$538	$555	$8,120	$588	$606
Other	$1,930	$1,314	$1,349	$1,350	$1,351	$1,353	$1,354	$1,355	$1,357	$1,358	$1,360	$1,361
Total Non-Operating Revenues	$32,579	$30,802	$28,733	$39,069	$29,111	$33,830	$45,663	$40,561	$43,434	$52,804	$48,951	$51,589
Total Revenue	**$192,908**	**$187,963**	**$200,844**	**$227,286**	**$234,047**	**$257,092**	**$288,621**	**$305,292**	**$328,735**	**$353,723**	**$367,256**	**$387,925**
		-2.6%	6.9%	13.2%	3.0%	9.8%	12.3%	5.8%	7.7%	7.6%	3.8%	5.6%
Operating Outlays												
Operations	$134,760	$141,998	$144,032	$148,061	$155,629	$175,830	$187,678	$199,170	$215,564	$218,069	$233,506	$247,998
Operating Projects	$2,226	$904	$1,220	$510	$535	$1,347	$1,399	$1,445	$1,489	$1,535	$1,588	$1,635
Debt Service	$15,527	$16,097	$21,249	$26,671	$34,286	$44,631	$58,620	$62,630	$62,366	$67,119	$71,856	$71,869
Total Operating Outlays	**$152,512**	**$158,999**	**$166,501**	**$175,241**	**$190,449**	**$221,808**	**$247,697**	**$263,246**	**$279,420**	**$286,723**	**$306,950**	**$321,503**
Operations + OP % Increase	11.9%	4.3%	1.6%	2.3%	5.1%	13.5%	6.7%	6.1%	8.2%	1.2%	7.1%	6.2%
Operating Transfers In/(Out)	3,729	(833)	(3,644)	1,617	(1,581)	11,991	5,278	6,035	7,092	6,832	7,268	7,588
Debt Proceeds	19,435	62,966	109,902	93,375	116,858	153,623	70,464	15,728	8,396	63,972	(6,767)	(7,191)
Capital Outlay	(56,464)	(112,954)	(136,638)	(141,510)	(155,161)	(192,624)	(110,700)	(58,620)	(60,429)	(130,357)	(53,905)	(63,407)
Total Other Financing Sources/ (Uses)	(33,300)	(50,822)	(30,380)	(46,518)	(39,884)	(27,010)	(34,958)	(36,857)	(44,941)	(59,553)	(53,404)	(63,011)
Balance Available	**7,096**	**(21,858)**	**3,964**	**5,527**	**3,713**	**8,274**	**5,966**	**5,190**	**4,374**	**7,447**	**6,901**	**3,412**
Reserves:												
Restricted Reserves:												
WUE-Restricted Operating Reserve	$12,598	$13,140	$13,875	$14,603	$15,871	$18,484	$20,641	$21,937	$23,285	$23,894	$25,579	$26,792
WUE - Rate Stablization Reserve	$1,539	$1,751	$2,125	$2,667	$3,429	$4,463	$5,862	$6,263	$6,237	$6,712	$7,186	$7,187
San Felipe Emergency Reserve	$3,981	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958	$3,958
Revenue Bond Debt Service Reserve	$5,934	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745	$4,745
State Water Project Tax Reserve	$2,737	$715	$202	$202	$202	$202	$202	$202	$202	$202	$202	$202
State Revolving Fund	$401	$401	$401	$401	$401	$401	$401	$401	$401	$401	$401	$401
Total Restricted	**$27,189**	**$24,709**	**$25,305**	**$26,576**	**$28,605**	**$32,253**	**$35,809**	**$37,506**	**$38,827**	**$39,911**	**$42,070**	**$43,284**
Committed Reserves:												
Floating Rate Debt Stabilization	$462	$353	$353	$353	$353	$353	$353	$353	$353	$353	$353	$353
Designated for Operating and Capital	$27,031	$9,328	$26,523	$30,379	$31,663	$35,890	$37,899	$40,992	$43,645	$49,608	$53,950	$55,748
Supplemental Water Supply Appropo.	$3,126	$9,729	$10,407	$10,807	$11,207	$11,607	$12,007	$12,407	$12,807	$13,207	$13,607	$14,007
SVAWPC Sinking Fund			$939	$939	$939	$939	$939	$939	$939	$939	$939	$939
Currently Authorized Projects	$23,614	$15,444	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Designated Reserves	**$54,232**	**$34,855**	**$38,222**	**$42,478**	**$44,162**	**$48,789**	**$51,198**	**$54,691**	**$57,744**	**$64,107**	**$68,849**	**$71,047**
Designated Liability & Other:												
GO litigation liability	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062	$7,062
Total Designated Liability & Other	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**	**$7,062**
Total	**$88,483**	**$66,626**	**$70,589**	**$76,116**	**$79,829**	**$88,103**	**$94,069**	**$99,259**	**$103,633**	**$111,080**	**$117,981**	**$121,393**
Debt Service Coverage												
Senior Lien Debt Service Coverage	4.11	2.90	2.70	2.81	2.50	1.96	1.82	1.80	1.95	2.16	1.99	2.09

North County (Zone W-2) Finances

North County (Zone W-2) is generally defined as the portion of the county north of Metcalf Road. North County (Zone W-2) accounts for approximately 80 percent of water district water consumption, but because of higher charges due to higher North County costs, about 95 percent of the Water Utility Enterprise's revenue. As shown at the beginning of the financial section in Table 4-2.1, staff recommend a $747 per acre-foot groundwater production charge for M&I or other non-agricultural water and a $847 per acre-foot charge for contract treated water for FY 2014–15. If adopted, there would be a 9.9 percent increase for groundwater production and 8.6 percent for contract treated water compared to FY 2013–14. The average household would experience an increase in their monthly bill of $2.31 or about 8 cents a day. Customers may also experience additional charge increases enacted by their retail water provider.

Staff propose an $0.84 per acre-foot or 4.6 percent increase to the North County agricultural groundwater production charge, which results in $19.14 per acre-foot in FY 2014–15, in concert with the South County agricultural groundwater production charge. The resulting agricultural groundwater production charge is 3 percent of the M&I groundwater production charge in North County.

Staff, recommend maintaining the surcharge on treated water delivered under the contracts with retail agencies at $100 per acre-foot. As outlined in treated water contracts, the water district has the discretion to make available treated water in excess of the retailers' basic contract amounts, so-called non-contract treated water, "… at such times and such prices as determined by the District." Staff recommend increasing the non-contract surcharge to $150 per acre-foot for FY 2014–15 to reduce the demand on surface water supplies and encourage more groundwater usage. Due to the drought, staff anticipate not having adequate surface water supplies for non-contract deliveries. The proposed surcharges for contract and non-contract water are expected to cause retail customers to have an economic incentive to take groundwater rather than treated water.

It is recommended that the surface water master charge be increased from $15.31 per acre-foot to $18.60 per acre-foot in order to gradually bring revenues in line with costs related to managing, operating and billing for surface water diversions. The increases in the basic user charge and surface water master charge result in a total surface water charge for M&I water of $765.60 per acre-foot or a 10.1 percent increase. The total surface water charge for agricultural water would increase to $37.74 per acre-foot, which is a 12.3 percent increase, relative to FY 2013–14.

Staff also recommend setting the SWP tax collection for FY 2014–15 at $21 million. The District incurs an annual indebtedness to the State of California pursuant to its Water Supply Contract dated November 20, 1961. Such indebtedness is proportional to the District's allocation of water from the SWP and pays for construction, maintenance and operation of SWP infrastructure and facilities. Staff anticipate that the District's contractual indebtedness to the State under the State Water Supply Contract for FY 2014–15 will be at least $21 million.

Table 4-6.2 shows the relationship between expenditures and the sources of revenue in North County Zone W-2. The groundwater production charges for FY 2014–15 are necessary to conduct "district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this State" (District Act, Section 26.3).

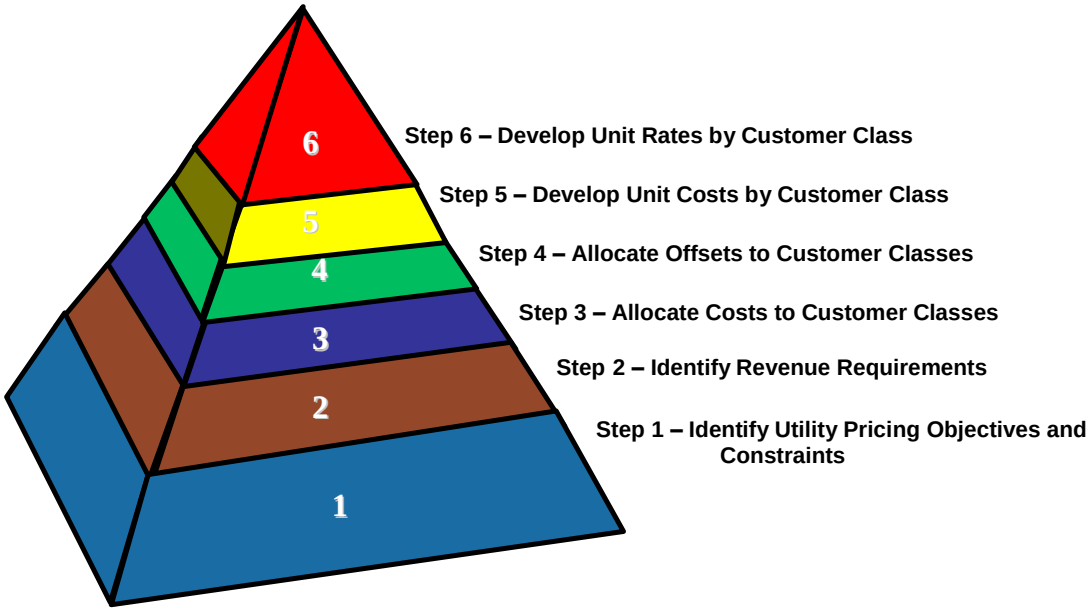
Table 4-6.2 Fiscal Year 2014–15 North County Water Utility Water Program Requirements and Financing Sources

Cost Center	Ends Policy	FY 15 Projected ($K)	Description of Cost Center/Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	68,404	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	8,026	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated Water Transmission & Distribution	E-2.3 Reliable High Quality Water is Delivered	36,743	These cost centers contain all expenditures associated with the treatment of water at the Rinconada, Penitencia and Santa Teresa Water Treatment Plants, as well as those expenditures related to the distribution of treated water to water utilities and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts.
Administration & General	Support Services	17,967	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Debt Service	21,249	Principal and Interest payments on outstanding debt
	Capital Improvements	142,161	Capital Improvement Program
	Open Space Credit	3,341	Help preserve the open space benefits provided by agricultural lands
	Adjust for FY 12 Actuals Versus Plan	(28,206)	
	Total Program Requirements	**269,686**	
	Financing Sources		
	Capital Cost recovery	3,669	
	Debt Proceeds	109,902	
	Interest & Other	6,294	
	Property Tax	23,254	
	Treated Water Sales	88,088	
	Surface Water Charges	1,150	
	Groundwater Production Charges	70,307	
	Capital Carryforward Reserves	15,444	
	Change in Reserves	(48,424)	
	Total Financing Sources	**269,686**	

Figure 4-6.3 and Table 4-6.3 show the cost of service analysis by customer class following six industry standard rate making steps:

1. Identify utility pricing objectives and constraints
2. Identify revenue requirements
3. Allocate costs to customer classes
4. Reduce costs by revenue offsets or non-rate related funding sources
5. Develop unit costs by customer class or net revenue requirements by customer class
6. Develop unit rates by customer class

Figure 4-6.3 Industry Standard Rate Making Steps



Water Utility pricing objectives and constraints are identified in Resolution 99-21, the District Act, Proposition 218, and existing contracts.

Line 11 in Table 4-6.3 represents rate making steps 2 and 3 summarizing the revenue requirements for North County Zone W-2 including operations costs, capital costs and debt service. Step 2 involves allocating water utility costs between zones W-2 (North County) and W-5 (South County) according to the benefits provided in each zone. Appendix B shows the percentage of operations costs allocated to the South County, along with a brief description of the basis of the allocation. Appendix C shows the percentage of capital and debt service costs allocated to South County along with a brief description of the basis of the allocations. Costs not allocated to the South County are allocated to the North County. Step 3 involves allocating costs directly to each customer class where possible, or allocating based on volume where the program services benefit multiple customer classes.

Line 29 in Table 4-6.3 represents rate making steps 4 and 5. It reflects the unit cost per acre-foot by customer class after applying non-rate related offsets to the revenue requirements. Offsets have been allocated directly to each zone and customer class where possible, or allocated based on volume where the offset applies to multiple customer classes. FY 2014–15 unit costs include an adjustment for the

reconciliation of FY 2011–12 actual costs and revenues against what should have been collected given actual costs.

Line 39 represents rate making step 6. There are two adjustments that have been made to achieve a pricing structure that meets the objectives of Resolution 99-21, namely a structure that facilitates managing surface water (SW) and groundwater (GW) supplies conjunctively to prevent the over use or under use of the groundwater basin. First, non-rate related revenues are offset against the cost of agricultural water. This is referred to as the "Open Space Credit." The purpose of the credit is to preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low.

The second adjustment involves reallocating the cost of treated water to groundwater and surface water users based on proportional water usage. Importing water into the county for treatment and subsequent distribution to treated water (TW) users offsets the need to pump water from the ground. Without treated imported water supplies, the groundwater basin would become over drafted, which would also impact surface water users (who are permitted to take surface water in-lieu of pumping it from the ground). Consequently, the reallocation of treated water cost represents the value of treated water to groundwater and surface water users and facilitates a pricing structure that prevents the over use of the groundwater basin.

Another aspect of the second adjustment is related to setting the basic user charge for surface water equal to the groundwater production charge. Surface water use is effectively in-lieu groundwater use permitted by the District to help preserve the groundwater basin. As such, the costs related to preserving the groundwater basin provide value to surface water users because it makes available District surface water, which otherwise would only be used for groundwater recharge. Similarly, the costs related to providing surface water benefit groundwater users because surface water usage helps preserve the groundwater basin. The second adjustment reallocates cost between surface water and groundwater customers in order to set the basic user charge for surface water equal to the groundwater production charge in recognition of this conjunctive use relationship, and in accordance with board policy.

Table 4-6.3 Fiscal Year 2014–15 North County (Zone W-2) Cost of Service by Customer Class

	FY '15 Projection ($K)	Zone W-2					Total W-2
		GW		TW	SW		
		M&I	AG	M&I	M&I	Ag	
1	**Operating Outlays**						
2	Operations/Operating Projects	28,780	189	78,094	865	21	107,950
3	SWP Imported Water Costs	5,574	39	17,250	320	8	23,191
4	Debt Service	4,320	30	16,843	55	1	21,249
5	**Total Operating Outlays**	38,674	258	112,187	1,240	30	152,390
6	Step 2- Identify revenue reqmnts						
7	**Capital & Transfers**						
8	Operating Transfers Out	2,595	18	2,868	41	1	5,524
9	Capital Outlays excl. carryforward	27,263	188	93,309	423	10	121,194
10	**Total Capital & Transfers**	29,858	206	96,177	465	11	126,717
11	**Total Annual Program Costs**	68,532	464	208,365	1,705	41	279,107
12	Step 3 - Allocate costs to customer classes						
13	**Revenue Requirement Offsets**						
14	Capital Cost Recovery	(1,724)	(12)	(1,905)	(27)	(1)	(3,669)
15	Debt Proceeds	(24,723)	(171)	(84,615)	(384)	(9)	(109,902)
16	Inter-governmental Services	(396)	(3)	(437)	(6)	(0)	(842)
17	SWP and W-1 Property Taxes	(4,906)	(34)	(14,524)	(270)	(7)	(19,740)
18	South County Deficit/Reserve	(954)	(7)	(1,054)	(15)	(0)	(2,030)
19	Interest Earnings	(161)	(1)	(178)	(3)	(0)	(343)
20	Inter-zone Interest	14	0	16	0	0	30
21	Capital Contributions	(656)	(5)	(725)	(10)	(0)	(1,396)
22	Other	(824)	(6)	(866)	(16)	(0)	(1,712)
23	Reserve Requirements	10,721	30	37,504	166	2	48,424
24	**Adjusted Revenue Requirement (FY 15)**	**44,924**	**257**	**141,579**	**1,140**	**25**	187,927
25	**Adjusted Revenue Requirement (FY 12 adj)**	1,924	(78)	(29,814)	(222)	(17)	(28,206)
26	**Total Adjusted Revenue Requirement**	**46,849**	**179**	**111,766**	**918**	**9**	159,720
27	Volume (KAF)	94.1	0.7	104.0	1.5	0.0	200
28							
29	Revenue Requirement per AF	$ 498	$ 275	$ 1,075	$ 612	$ 236	
30	Step 5 - Develop unit costs by customer class						
31	**Adjustments for Agricultural Preservation**						
32	Allocate WU 1% Ad Valorem Prop Tax	0	(167)	-	-	(7)	(174)
33	Transfer GF 1% Ad valorem Prop Tax	-	-	-	-	-	-
34	Transfer WS 1% Ad Valorem Prop Tax	-	-	-	-	-	-
35	Revenue Requirement per AF	$ 497.8	$ 19.1	$ 1,075	$ 612	$ 37.7	
36	Step 6 - Rate Design						
37	**Adjustments to Facilitate Conjunctive Use**						
38	Reallocate TW/SW/RW costs	23,446	-	(23,676)	230	-	0
39	Charge per AF	$ 747	$ 19.1	$ 847	$ 766	$ 37.7	
40	Total Revenue ($K)	$70,295	$12	$88,089	$1,148	$1	159,547

Step 4- Reduce costs by revenue offsets

South County (Zone W-5) Finances

South County (Zone W-5) is generally defined as the portion of Santa Clara County south of Metcalf Road, including Coyote Valley, Morgan Hill, San Martin, Gilroy and other unincorporated areas within the zone. Within the Water Utility Fund, water district staff track revenue and costs associated with the South County Zone W-5 separately so that the groundwater production charge for services that benefit the South County Zone can be calculated.

Charges in the South County (Zone W-5) are based on the costs of specific facilities, imported water costs, and operations costs related to managing a conjunctive use program, ensuring water quality, and measuring water supplies and usage. Historically, South County finances have been managed to maintain an approximate balance between cumulative revenues and costs. However, going forward, staff believe that maintaining a cumulative surplus or reserve balance would be prudent to provide a funding source for unforeseen future costs.

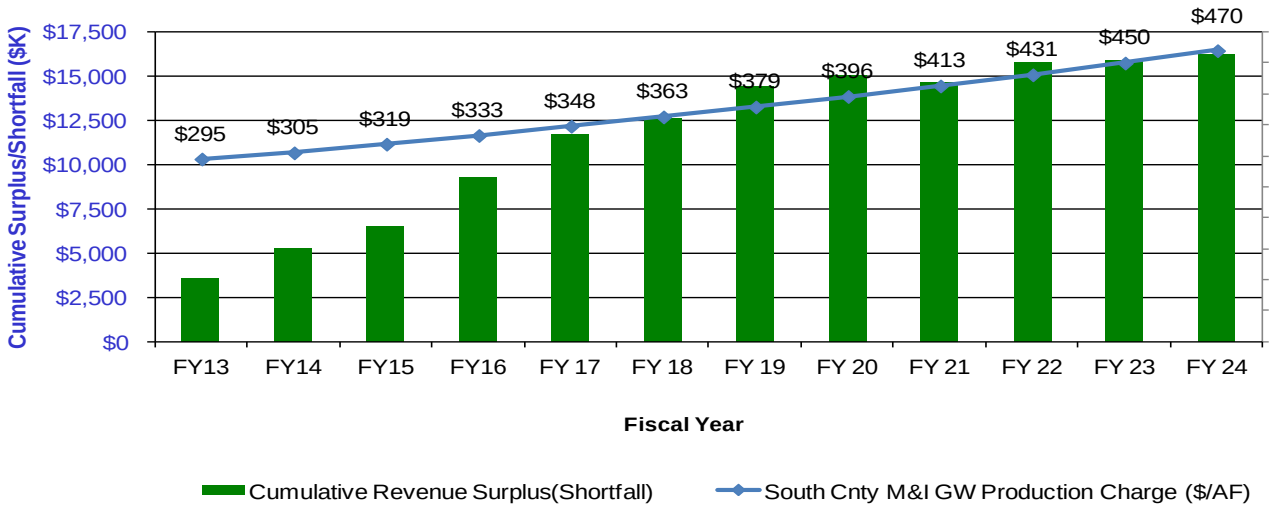
For South County, staff recommend increasing the groundwater production charge to $319 per acre-foot for M&I water and $19.14 per acre-foot for agricultural water. The average household would experience an increase in their monthly bill of $0.48 or about 2 cent per day. Customers may also experience additional water charge increases enacted by their retail water provider.

It is recommended that the surface water master charge be increased from $15.31 per acre-foot to $18.60 per acre-foot in order to gradually bring revenues in line with costs related to managing, operating and billing for surface water diversions. The increases in the basic user charge and surface water master results in a total surface water charge for M&I water of $337.60 per acre-foot or a 5.4 percent increase. The total surface water charge for agricultural water would increase to $37.74 per acre-foot, which is a 12.3 percent increase, relative to FY 2013–14.

For recycled water, staff recommend increasing the M&I charge by 4.9 percent to $299 per acre-foot. For agricultural recycled water, staff recommend a 2.0 percent increase to $42.94 per acre-foot. This pricing is consistent with the provisions of the “Wholesale-Retailer Agreement for Supply of recycled Water Between Santa Clara Valley Water District and City of Gilroy.” The increase maximizes cost recovery while concurrently providing an economic incentive to use recycled water.

On a cumulative basis, revenues are estimated to exceed costs by approximately $6.5 million at the end of FY 2014–15. Figure 4-6.4 shows a cumulative revenue surplus projected in subsequent years which could help pay for potential dam seismic work at Uvas and Chesbro dams. The projection assumes an average increase of 4.4 percent in the M&I groundwater charge between FY 2014–15 and FY 2023–24. The average increase under the high end of the projected range shown in Figure 4-2.1 is 6.4 percent, over the same time frame.

Figure 4-6.4 South County Cumulative Revenue Surplus / Shortfall Projection ($/Thousands)



Open Space Credit

The District Act limits agricultural groundwater production charges to a maximum of 25 percent of the M&I groundwater production charges. Current board policy adds an “open space” credit to agricultural revenues. The purpose of the credit is to help preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low. To the extent that Proposition 218 applies to the groundwater production charge, it requires that costs to end users be proportional such that one class of users is not subsidizing another.

At the request of the board, staff recently completed a study of the board’s Open Space Credit policy to address whether or not the property taxes used to support the Open Space Credit should be used to fund other important District activities, and whether increasing the agricultural groundwater production charges would affect the viability of the agricultural lands. Staff engaged a diverse group of stakeholders to gain insight on the impact of the current Open Space Credit policy on them and the impact of any potential changes to this policy. Staff convened a Working Group comprised of members representing agriculture, water retailers, the business community and the County of Santa Clara Land Planning. Staff solicited feedback from the Agricultural Advisory Committee, the Environmental Advisory Committee, Santa Clara County Farm Bureau, Water Commission, and farmers in North County and South. At the completion of the study in November, 2013, the board agreed with the Working Group recommendation and decided to maintain the Open Space Credit as is but agreed to have further discussions on the policy as necessary in the future.

To comply with the current agricultural groundwater production charge setting policy, staff recommends the open space credit received by South County be $6.4 million in FY 2014–15 (funded by 1 percent ad valorem property taxes). This includes an adjustment that reconciles FY 2011–12 actuals against what was projected. The recommended agricultural groundwater production charge for FY 2014–15 is $19.14 per acre foot, which is 6 percent of the proposed M&I groundwater production charge in South County.

Program Requirements and Financing Sources

Table 4-6.4 shows the relationship between expenditures and sources of revenue in South County for FY 2014–15. It is estimated that South County will pay for $14.1 million of operating costs and pay back nearly $3.7 million in capital costs. The specific operating costs allocated to South County can be found in Appendix B. Details on capital cost recovery can be found in Appendix C. The groundwater production charges recommended for FY 2014–15 in South County Zone W-5 are necessary to conduct, “district activities in the protection and augmentation of the water supplies for users within a zone or zones of the district which are necessary for the public health, welfare, and safety of the people of this State” (District Act, Section 26.3).

Table 4-6.4 Fiscal Year 2014–15 South County Water Utility Program Requirements and Financing Sources

Cost Center	FY 15		
	Ends Policy	Projected ($K)	Description of Cost Center/Activities
Source of Supply	E-2.1 Current and future water supply for municipalities, industries, agriculture and the environment is reliable	7,953	This cost center contains all the anticipated expenditures that relate to obtaining, producing, and protecting a water supply; including all conservation, reclamation, and importation costs.
Raw Water Transmission & Distribution	E-2.2 Raw Water Transmission and Distribution Assets Are Managed to Ensure Efficiency and Reliability	2,599	This cost center contains all expenditures relating to the distribution of raw water. The distribution system consists of pipelines, canals, and percolation ponds and includes the use of creek systems.
Water Treatment and Treated Water Transmission & Distribution	E-2.3 Reliable High Quality Water is Delivered	19	These cost centers contain all expenditures associated with the treatment of water at the Rinconada, Penitencia and Santa Teresa Water Treatment Plants, as well as those expenditures related to the distribution of treated water to water utilities and includes costs associated with the treated water reservoirs, pumping plants, pipelines, and turnouts.
Administration & General	Support Services	3,541	This cost center contains all expenditures of an administrative nature which cannot be properly assigned to another of the other four cost centers. Work performed in this cost center cover items such as the collection of groundwater charges, financial and cash flow studies, annual reports, and general water management planning.
Capital & Other	Capital Cost Recovery	3,669	Annual payment for completed capital facilities and improvements
	Interest (Earned)/Due Utility Reserves	(30)	Based on cumulative revenue surplus at 3% interest rate
	Adjust for FY 12 Actuals Versus Plan	(810)	
	Total Program Requirements	**16,941**	
	Financing Sources		
	Open Space Credit	5,220	
	Property Tax & Other Revenue	2,611	
	Surface Water Charges	218	
	Recycled Water Charges	235	
	Groundwater Production Charges	10,687	
	Total Financing Sources	**18,971**	
	FY 15 Revenue Surplus	**2,030**	

Figure 4-6.3 and Table 4-6.5 show the cost of service analysis by customer class following the six industry standard rate making steps for South County Zone W-5:

1. Identify utility pricing objectives and constraints
2. Identify revenue requirements
3. Allocate costs to customer classes
4. Reduce costs by revenue offsets or non-rate related funding sources
5. Develop unit costs by customer class or net revenue requirements by customer class
6. Develop unit rates by customer class

Line 11 in Table 4-6.5 represents rate making steps 2 and 3 summarizing the revenue requirements for South County Zone W-5. Costs have been allocated directly to each customer class where possible, or allocated based on volume where the costs benefit multiple customer classes.

Line 29 in Table 4-6.5 represents rate making steps 4 and 5. It reflects the unit cost per acre-foot by customer class after applying non-rate related offsets to the revenue requirements. Offsets have been allocated directly to each customer class where possible, or allocated based on volume where the offset applies to multiple customer classes. FY 2014–15 unit costs include an adjustment for the reconciliation of FY 2011–12 actual costs and revenue against what should have been collected given actual costs.

Line 39 represents rate making step 6. There are two adjustments that have been made to achieve a pricing structure that meets the objectives of Resolution 99-21, namely a structure that facilitates managing surface water and groundwater supplies conjunctively to prevent the over use or under use of the groundwater basin. First, non-rate related revenues are offset against the cost of agricultural water. This is referred to as the “open space” credit. The purpose of the credit is to help preserve the open space benefits provided by agricultural lands by keeping agricultural groundwater production charges low.

The second adjustment involves reallocating the cost of recycled water (RW) to groundwater and surface water users. Without recycled water supplies, there would be additional demand on the groundwater basin and a higher risk of overdraft, which would also impact surface water users (who are permitted to take surface water in lieu of pumping it from the ground). Consequently, the reallocation of recycled water cost represents the value of recycled water to groundwater and surface water users and facilitates a pricing structure that helps prevent the over use of the groundwater basin.

Another aspect of the second adjustment is related to setting the basic user charge for surface water equal to the groundwater production charge. Surface water use is effectively in-lieu groundwater use permitted by the District to help preserve the groundwater basin. As such, the costs related to preserving the groundwater basin provide value to surface water users because it makes available District surface water which otherwise would only be used for groundwater recharge. Similarly, the costs related to providing surface water benefit groundwater users because surface water usage helps preserve the groundwater basin. The second adjustment reallocates cost between surface water and groundwater customers in order to set the basic user charge for surface water equal to the groundwater production charge in recognition of this conjunctive use relationship, and in accord with board policy.

Table 4-6.5 Fiscal Year 2014–15 South County (Zone W-5) Cost of Service by Customer Class

	FY '15 Projection ($K)	Zone W-5						
		GW		SW		RW		Total W-5
		M&I	AG	M&I	AG	M&I	AG	
1	**Operating Outlays**							
2	Operations/Operating Projects	7,597	5,723	165	423	110	94	14,112
3	SWP Imported Water Costs	-	-	-	-	-	-	-
4	Debt Service	-	-	-	-	-	-	-
5	**Total Operating Outlays**	7,597	5,723	165	423	110	94	14,112
6								
7	**Capital & Transfers**							
8	Operating Transfers Out	-	-	-	-	-	-	-
9	Capital Outlays excl. carryforward	-	-	-	-	-	-	-
10	**Total Capital & Transfers**	-	-	-	-	-	-	-
11	**Total Annual Program Costs**	7,597	5,723	165	423	110	94	14,112
12								
13	**Revenue Requirement Offsets**							
14	Capital Cost Recovery	1,395	1,090	22	57	595	510	3,669
15	Debt Proceeds	-	-	-	-	-	-	-
16	Inter-governmental Services	(68)	(53)	(1)	(3)	-	-	(124)
17	SWP and W-1 Property Taxes	(671)	(524)	(10)	(27)	(15)	(13)	(1,260)
18	South County Deficit/Reserve	1,081	844	17	44	24	20	2,030
19	Interest Earnings	-	-	-	-	-	-	-
20	Inter-zone Interest	(16)	(12)	(0)	(1)	(0)	(0)	(30)
21	Capital Contributions	-	-	-	-	-	-	-
22	Other	(54)	(42)	(0)	(1)	-	-	(97)
23	Reserve Requirements	-	-	-	-	-	-	-
24	**Adjusted Revenue Requirement (FY 15)**	**9,264**	**7,025**	**192**	**492**	**714**	**612**	18,300
25	**Adjusted Revenue Requirement (FY 12 adj)**	86	(884)	21	(46)	308	(295)	(810)
26	**Total Adjusted Revenue Requirement**	**9,350**	**6,141**	**213**	**447**	**1,022**	**317**	17,490
27	Volume (KAF)	32.0	25.0	0.5	1.3	0.7	0.6	60
28								
29	Revenue Requirement per AF	$ 292	$ 246	$ 427	$ 343	$ 1,460	$ 528	
30								
31	**Adjustments for Agricultural Preservation**							
32	Allocate WU 1% Ad Valorem Prop Tax	-	(4,471)	-	-	-	-	(4,471)
33	Transfer GF 1% Ad valorem Prop Tax	-	(940)	-	-	-	-	(940)
34	Transfer WS 1% Ad Valorem Prop Tax	-	(251)	-	(397)	-	(291)	(940)
35	Revenue Requirement per AF	$ 292	$ 19.1	$ 427	$ 37.7	$ 1,460	$ 42.9	
36								
37	**Adjustments to Facilitate Conjunctive Use**							
38	Reallocate TW/SW/RW costs	857	-	(44)	-	(813)	-	-
39	Charge per AF	$ 319	$ 19.1	$ 338	$ 38	$ 299	$ 42.9	
40	Total Revenue ($K)	$10,207	$479	$169	$49	$209	$26	11,139

Step 2- Identify revenue reqmnts

Step 3 - Allocate costs to customer classes

Step 4- Reduce costs by revenue offsets

Step 5 - Develop unit costs by customer class

Step 6 - Rate Design

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APPENDIX A

WATER UTILITY CHARGE COMPONENTS AND RECOMMENDED CHARGES

Table A-1 Recommended Charge Components for Fiscal Year 2014–15

Component	Charge ($/AF)
Basic User, Zone W-2 (North County)	
Agricultural	19.14
M&I	747.00
Basic User, Zone W-5 (South County/Coyote Valley)	
Agricultural	19.14
M&I	319.00
Treated Water Surcharge	
Contract	100.00
Non-contract	150.00
Surface Water Charge	
Water Master	18.60

Table A-2 Recommended Charge Components for Fiscal Year 2014–15

Type of Charge	AG Water ($/AF)	M&I Water ($/AF)
Groundwater Production		
Zone W-2	$19.14	$747.00
Zone W-5	$19.14	$319.00
Surface Water[1]		
Other Zone W-5 Deliveries[2]	$37.74	$337.60
Other Zone W-2 Deliveries[3]	$37.74	$765.60
Minimum Charge Zone W-5[4]	$14.35	$239.25
Minimum Charge Zone W-2[5]	$14.35	$560.25
Treated Water		
Contract[6]	N/A	$847.00
Non-contract[7]	N/A	$897.00
Recycled Water		
Gilroy	$42.94	$299.00

[1] Surface water charge is the sum of the basic user charge plus the water master charge.
[2] Other Zone W-5 Deliveries = Basic User (AG or M&I @ $19.14/AF or $319.00/AF) + Water Master ($18.60/AF).
[3] Other Zone W-2 Deliveries = Basic User (AG or M&I @ $19.14/AF or $747.00/AF) + Water Master ($18.60/AF).
[4] Minimum Charge W-5 = 0.75 X Basic User W-5 (M&I @ $319.00/AF, AG @ $19.14/AF).
[5] Minimum Charge W-2 = 0.75 X Basic User W-2 (M&I @ $747.00/AF, AG @ $19.14/AF).
[6] Treated Water Charge is the sum of Basic User ($747.00/AF) and Treated Water Surcharge ($100.00/AF).
[7] The charge for non-contract deliveries is the sum of the basic user charge ($747.00/AF) and the treated water surcharge for non-contract water ($150.00/AF).

APPENDIX B

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $)

Cost Center	Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2015	Basis of Allocation
Source of Supply	91041012	Water Operations Planning	16.1%	64	333	396	Raw Water Deliveries
	91041014	Urban Water Management Plan	11.9%	9	66	75	M&I Water Usage Ratio
	91041018	Groundwater Management Program	37.5%	194	323	517	Groundwater Production Ratio
	91061012	Facilities Env Compliance	16.1%	6	31	37	Raw Water Deliveries
	91081007	Dam Safety Program	14.4%	206	1,226	1,433	Program Benefit Calculation
	91101004	Recycled Water Program	5.9%	231	3,684	3,915	Population
	91111001	Water Rights	16.1%	78	405	482	Raw Water Deliveries
	91131004	Imported Water Program	11.8%	641	4,792	5,434	Imported Water Ratio
	91131006	IW San Felipe Division Delvrs	16.1%	3,323	17,318	20,641	Program Benefit Calculation
	91131007	IW South Bay Aqueduct Delvrs	0.0%	-	678	678	No South County Benefit
	91131008	State Water Project Costs	0.0%	-	22,513	22,513	No South County Benefit
	91151001	Water Conservation Program	5.9%	54	864	918	Population
	91151007	Water Conservation-Residential	4.9%	72	1,406	1,478	Program Benefit Calculation
	91151008	Water Conservation-Commercial/Ind	3.4%	31	895	926	Program Benefit Calculation
	91151009	Water Conservation-AG	97.5%	139	4	143	Ag Production Ratio
	91151010	Water Conservation-Landscape	7.0%	103	1,366	1,469	Program Benefit Calculation
	91151011	Water Conservation Campaign	5.9%	13	205	218	Population
	91151012	Recycled/Purified Water Public Engagement	5.9%	30	481	511	Population
	91211004	San Felipe Reach 1 Operation	18.8%	94	406	500	CVP Imported Water Ratio
	91211005	SFD Reach 1 Administration	18.8%	2	8	10	CVP Imported Water Ratio
	91211084	San Felipe Reach1 Ctrl and Ele	18.8%	56	243	299	CVP Imported Water Ratio
	91211085	SF Reach 1-Engineering - Other	18.8%	31	136	167	CVP Imported Water Ratio
	91211099	San Felipe Reach 1 Gen Maint	18.8%	113	487	599	CVP Imported Water Ratio
	91221002	San Felipe Reach 2 Operation	18.8%	8	36	45	CVP Imported Water Ratio
	91221006	SF Reach 2-Engineering - Other	18.8%	20	87	107	CVP Imported Water Ratio
	91221099	San Felipe Reach 2 Gen Maint	18.8%	48	209	258	CVP Imported Water Ratio
	91231002	San Felipe Reach 3 Operation	18.8%	18	171	189	CVP Imported Water Ratio
	91231084	San Felipe Reach3 Ctrl and Ele	18.8%	23	221	244	CVP Imported Water Ratio
	91231085	SF Reach 3-Engineering - Other	18.8%	13	125	138	CVP Imported Water Ratio
	91231099	San Felipe Reach 3 Gen Maint	18.8%	128	778	906	CVP Imported Water Ratio
	91281007	SVAWPC Facility Operations	0.0%	-	2,331	2,331	No South County Benefit
	91281008	SVAWPC Facility Maintenance	0.0%	-	1,114	1,114	No South County Benefit
	91441003	Desalination	11.9%	8	57	65	M&I Water Usage Ratio
	91451002	Well Ordinance Program	12.9%	163	1,100	1,263	Well Permits and Inpections
	91451005	Source Water Quality Mgmt	11.9%	46	343	390	M&I Water Usage Ratio
	91451011	Invasive Mussel Prevention	16.1%	100	523	624	Raw Water Deliveries
	91551001	Groundwater Monitoring	37.5%	362	603	965	Groundwater Production Ratio
	91551002	Groundwater Supply Managemen	37.5%	337	561	898	Groundwater Production Ratio
	91761001	Local Res / Div Plan & Analysis	20.4%	124	485	609	Total Water Deliveries Ratio
	91761002	Local Reservoir/Diversion Ops	20.4%	17	67	84	Total Water Deliveries Ratio
	91761099	Dams / Reservoir Gen Maint	22.0%	290	1,028	1,317	Program Benefit Calculation
	91791012	Groundwater Quality Management	37.5%	384	640	1,025	Groundwater Production Ratio
	91792001	Domestic Well Testing Program	87.0%	372	56	428	Program Benefit Calculation
				7,953	**68,404**	**76,357**	

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $) … CONTINUED

Cost Center	Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2015	Basis of Allocation
Raw Water Transmission & Distribution	92041014	FAHCE/Three Creeks HCP Project	4.3%	83	1,853	1,936	Coyote Water Supply Ratio
	92061012	Facilities Env Compliance	16.1%	11	58	69	Raw Water Deliveries
	92261099	Vasona Pump Station Gen Main	0.0%	-	139	139	No South County Benefit
	92761001	Raw Water T and D Genrl Oper	16.1%	200	1,041	1,241	Raw Water Deliveries
	92761006	Rchrg / RW Field Fac Asset Mgt	39.7%	80	122	202	Groundwater Recharge Ratio
	92761007	Rchrg / RW Field Ops Pln& Anlys	39.7%	97	147	244	Groundwater Recharge Ratio
	92761008	Recycled Water T&D Genrl Maint	100.0%	92	-	92	Benefits only South County
	92761009	Recharge/RW Field Ops	39.7%	997	1,514	2,511	Groundwater Recharge Ratio
	92761010	Rchrg / RW Field Fac Maint	39.7%	541	822	1,363	Groundwater Recharge Ratio
	92761011	Untreated Water Field Ops	45.3%	13	15	28	Untreated Water Deliveries Ratio
	92761012	Untreated Water Prog Plan&Analysis	45.3%	47	57	104	Untreated Water Deliveries Ratio
	92761082	Raw Water T&D Ctrl and Electr	16.1%	87	456	543	Raw Water Deliveries
	92761083	Raw Water T&D Eng Other	16.1%	31	161	192	Raw Water Deliveries
	92761085	Anderson Hydrelctrc Fclty Main	21.3%	18	68	86	Anderson Water Deliveries Ratio
	92761099	Raw Water T / D Gen Maint	16.1%	186	971	1,157	Raw Water Deliveries
	92781002	RW Corrosion Control	16.1%	116	603	719	Raw Water Deliveries
				2,599	**8,026**	**10,625**	
Water Treatment and Treated Water Transmission & Distribution	93061012	Facilities Env Compliance	0.0%	-	443	443	No South County Benefit
	93081008	W T General Water Quality	0.0%	-	1,585	1,585	No South County Benefit
	93081009	Water Treatment Plant Engineering	0.0%	-	546	546	No South County Benefit
	93231007	PWTP Landslide Monitoring	0.0%	-	138	138	No South County Benefit
	93231009	PWTP General Operations	0.0%	-	4,695	4,695	No South County Benefit
	93231099	Penitencia WTP General Maint	0.0%	-	2,216	2,216	No South County Benefit
	93281005	STWTP - General Operations	0.0%	-	5,354	5,354	No South County Benefit
	93281099	Santa Teresa WTP General Maint	0.0%	-	2,646	2,646	No South County Benefit
	93291012	RWTP General Operations	0.0%	-	6,955	6,955	No South County Benefit
	93291099	Rinconada WTP General Maint	0.0%	-	3,139	3,139	No South County Benefit
	93401002	Water District Laboratory	0.5%	19	3,748	3,766	Lab Analyses
	93761001	SF/SCVWD Intertie General Ops	0.0%	-	129	129	No South County Benefit
	93761004	Campbell Well Field Operations	0.0%	-	296	296	No South County Benefit
	93761005	Campbell Well Field Maintenance	0.0%	-	59	59	No South County Benefit
	93761006	Treated Water Ctrl & Elec Eng	0.0%	-	2,544	2,544	No South County Benefit
	93761099	SF/SCVWD Intertie Gen Maint	0.0%	-	49	49	No South County Benefit
	94761005	TW T&D - Engineering - Other	0.0%	-	193	193	No South County Benefit
	94761099	Treated Water T/D Gen Maint	0.0%	-	810	810	No South County Benefit
	94762007	SCADA Systems Upgrades	0.0%			592	No South County Benefit
	94781001	Treated Water T/D Corrosion	0.0%	-	606	606	No South County Benefit
				19	**36,151**	**36,762**	

BASIS OF COST ALLOCATIONS BETWEEN NORTH AND SOUTH ZONES (IN THOUSANDS $) … CONTINUED

Cost Center	Project #	Project Name	South County Allocation	South County Share	North County Share	Total FY 2015	Basis of Allocation
Administration & General	95001090	Unscoped Projects-Budget Only	11.9%	42	308	350	M&I Water Usage Ratio
	95011003	WU Asset Protection Support	2.3%	11	470	481	Program Benefit Calculation
	95021008	Electrical Power Support	1.5%	4	241	244	Labor Hours
	95021009	Pipeline Monumentation	11.9%	17	126	143	M&I Water Usage Ratio
	95031002	Grants Management	11.9%	11	83	94	M&I Water Usage Ratio
	95041039	Integrated Regional Water Mgmt	11.9%	12	92	105	M&I Water Usage Ratio
	95041046	Survey Record Management	11.9%	9	69	79	M&I Water Usage Ratio
	95061007	WUE Asset Management Plng Prgm	2.3%	16	677	693	Program Benefit Calculation
	95061012	Rental Expense San Pedro,MH	100.0%	26	-	26	Benefits only South County
	95061027	Water Utility Health & Safety	11.9%	42	309	351	M&I Water Usage Ratio
	95061032	Water Utility Ops Safety Training	11.9%	80	596	676	M&I Water Usage Ratio
	95061037	WUE Training & Development	11.9%	94	695	788	M&I Water Usage Ratio
	95061038	WUE Administration	11.9%	887	6,569	7,457	M&I Water Usage Ratio
	95061043	WUE ER Response Plan & Implement	5.9%	5	79	84	Population
	95061045	AM Framework Implementation	11.9%	37	277	315	M&I Water Usage Ratio
	95061046	District CMMS Administration	11.9%	42	313	356	M&I Water Usage Ratio
	95061047	WUE Technical Training Program	11.9%	49	359	408	M&I Water Usage Ratio
	95061052	Vacancy Pool Salary&Benefits	0.0%	-	-	-	
	95061054	Safe Clean Water Implementation	11.9%	15	111	126	M&I Water Usage Ratio
	95062012	WUE Maint Audit Impl Plan	2.3%	5	195	200	Program Benefit Calculation
	95071041	Welding Services	1.5%	3	234	237	Program Benefit Calculation
	95101003	W2 W5 Wtr Revenue Program	69.0%	890	400	1,290	Labor Hours
	95111003	Water Use Measurement	39.8%	585	885	1,471	Labor Hours
	95121001	Fin/Economic Water Rate Study	11.9%	53	390	443	M&I Water Usage Ratio
	95151002	Water Utility Customer Relations	5.9%	18	294	312	Population
	95731001	Water Supply Modeling/Analys	11.9%	35	259	293	M&I Water Usage Ratio
	95741001	WUE Long-term Planning	11.9%	15	114	129	M&I Water Usage Ratio
	95741042	Water Resources EnvPlng & Permtg	18.0%	162	737	898	Program Benefit Calculation
	95761003	SCADA Network Administration	2.2%	4	158	162	Program Benefit Calculation
	95761071	Emergency Preparedness Prog	5.9%	36	573	609	Population
	95761072	Business Continuity Program	5.9%	14	223	237	Population
	95771011	InterAgency Urban Runoff Program	16.1%	69	361	430	Raw Water Deliveries
	95771031	HAZMAT Emergency Response	10.0%	9	83	92	Emergency Response Events
	95811043	Hydrologic Data Msrmt & Mgmt	17.0%	140	682	822	Stream Gauge location
	95811046	Warehouse Services	11.9%	51	377	428	M&I Water Usage Ratio
	95811049	X Valley Subsidence Survey	0.0%	-	370	370	No South County Benefit
	95811050	Benchmark Maintenance (Countywide)	33.3%	52	103	155	Benchmark Maintenance
	95811054	District Real Property Administration	0.0%	-	153	153	Program Benefit Calculation
				3,541	**17,967**	**21,508**	
		TOTAL		14,112	130,548	145,252	

Note: Projects 91231002, 91231084, 912341085, and 91231099 have been adjusted for the Coyote Pumping Plant costs.

APPENDIX C
SOUTH COUNTY CAPITAL COST RECOVERY

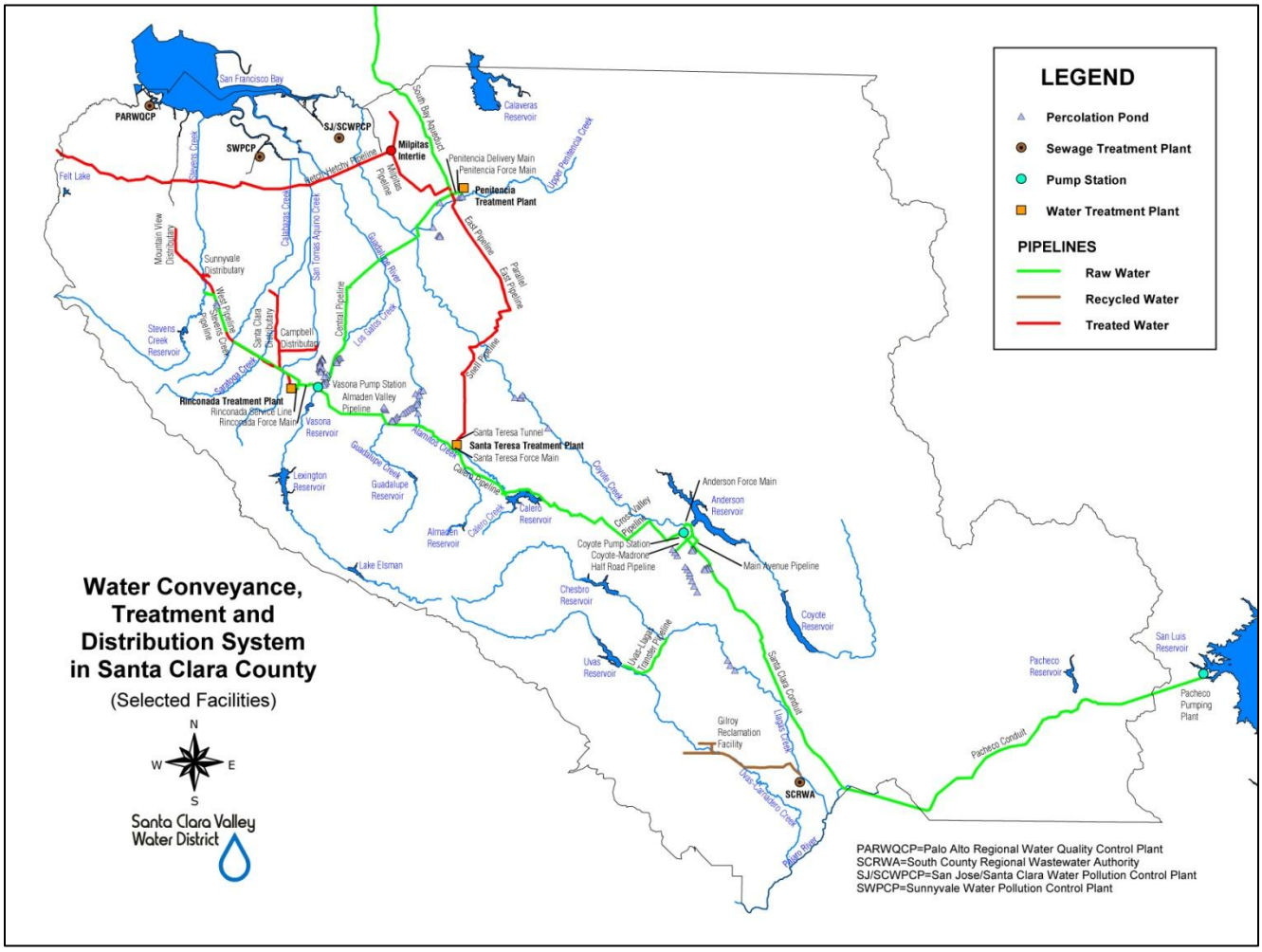
(In Thousands $)						
Job Description	Total Project Cost	South County %	South County Cost	FY 15 Cost Recovery*	Year Cost Recovery is Complete	Basis of Allocation to the South
Uvas Dam & Reservoir	$ 1,124	100.0%	$ 1,124	$ 88	FY 22	Benefits only South County
San Pedro Recharge Facility	$ 1,882	100.0%	$ 1,882	$ 147	FY 22	Benefits only South County
San Pedro Recharge house	$ 700	100.0%	$ 700	$ 47	FY 31	Benefits only South County
Recycled Water Improvements I	$ 7,232	100.0%	$ 7,232	$ 481	FY 32	Benefits only South County
Recycled Water Improvements II	$ 118	100.0%	$ 118	$ 8	FY 33	Benefits only South County
Recycled Water Improvements III	$ 1,721	100.0%	$ 1,721	$ 115	FY 34	Benefits only South County
Water Banking Rights	$ 6,226	8.0%	$ 498	$ 33	FY 35	Total Imported Water Ratio
Dam Instrumentation	$ 6,243	21.0%	$ 1,311	$ 87	FY 41	Program benefit calculation
Geodetic Control Maintenance	$ 236	41.0%	$ 97	$ 6	FY 36	Survey Analysis
Dam Maintenance Mitigation	$ 3,504	22.0%	$ 771	$ 51	FY 44	Program benefit calculation
SC Recycled Water Masterplan - Immediate Term	$ 3,257	100.0%	$ 3,257	$ 216	FY 37	Benefits only South County
SC Recycled Water Masterplan - Short Term Implementation 1A	$ 4,314	100.0%	$ 4,314	$ 286	FY 42	Benefits only South County
Water Banking FY 06	$ 18,895	9.0%	$ 1,701	$ 113	FY 36	Total Imported Water Ratio
San Felipe Division Capital	$ 7,920	13.1%	$ 1,038	$ 1,038	N/A	Repayment Cost Distribution
Pacheco Pumping Plant Regulating Tank Recoating	$ 2,550	17.0%	$ 434	$ 29	FY 42	CVP Imported Water Ratio
San Felipe Communications Cable Replacement	$ 235	17.0%	$ 40	$ 3	FY 42	CVP Imported Water Ratio
Small Caps, San Felipe	$ -	18.8%	$ (122)	$ (122)	N/A	CVP Imported Water Ratio
Santa Clara Tunnel Landslide	$ 4,509	15.1%	$ 681	$ 45	FY 39	CVP Imported Water Ratio
SC Tunnel Landslide Mitigation	$ 217	16.9%	$ 37	$ 2	FY 39	CVP Imported Water Ratio
Small Caps, San Felipe Reach 3	$ 1,601	18.8%	$ 301	$ 301	N/A	CVP Imported Water Ratio
Water Infrastructure Reliability Program	$ 2,134	1.5%	$ 32	$ 2	FY 36	Program benefit calculation
Water Infrastructure Baseline Improvement	$ 2,403	3.6%	$ 87	$ 6	FY 38	Spare pipe usage
Coyote Dam Control Building Improvement	$ 576	19.6%	$ 113	$ 7	FY 42	Anderson deliveries ratio
Pacheco Pumping Plant ASD Replacement	$ 17,302	18.8%	$ 3,253	$ 216	FY 44	CVP Imported Water Ratio
Radio Repeater Infill	$ 5,423	11.1%	$ 602	$ 0	FY 42	M&I Water Usage Ratio
Santa Clara Conduit Rehab	$ 1,814	17.0%	$ 308	$ 20	FY 42	CVP Imported Water Ratio
Raw Water Control System	$ 9,188	4.3%	$ 399	$ 26	FY 37	Program benefit calculation
Small Caps, Raw Water	$ 440	16.1%	$ 71	$ 71	N/A	Raw Water Usage
Microwave Telecommunications	$ 4,907	11.9%	$ 584	$ 39	FY 44	M&I Water Usage Ratio
SCW Regionally Significant Habitat Land Acquisition	$ 577	11.9%	$ 69	$ 69	N/A	M&I Water Usage Ratio
Information Systems Management	$ 5,802	9.8%	$ 569	$ 38	FY 40	M&I Water Usage Ratio
Peoplesoft Upgrade	$ 78	9.8%	$ 8	$ 1	FY 39	M&I Water Usage Ratio
Corp Yard Relocation	$ 26	10.2%	$ 3	$ 0	FY 40	M&I Water Usage Ratio
Capital Program Administration	$ 3,112	6.5%	$ 201	$ 201	N/A	Total Capital Cost Ratio
Grand Total	**$ 126,266**		**$ 33,430**	**$ 3,669**		

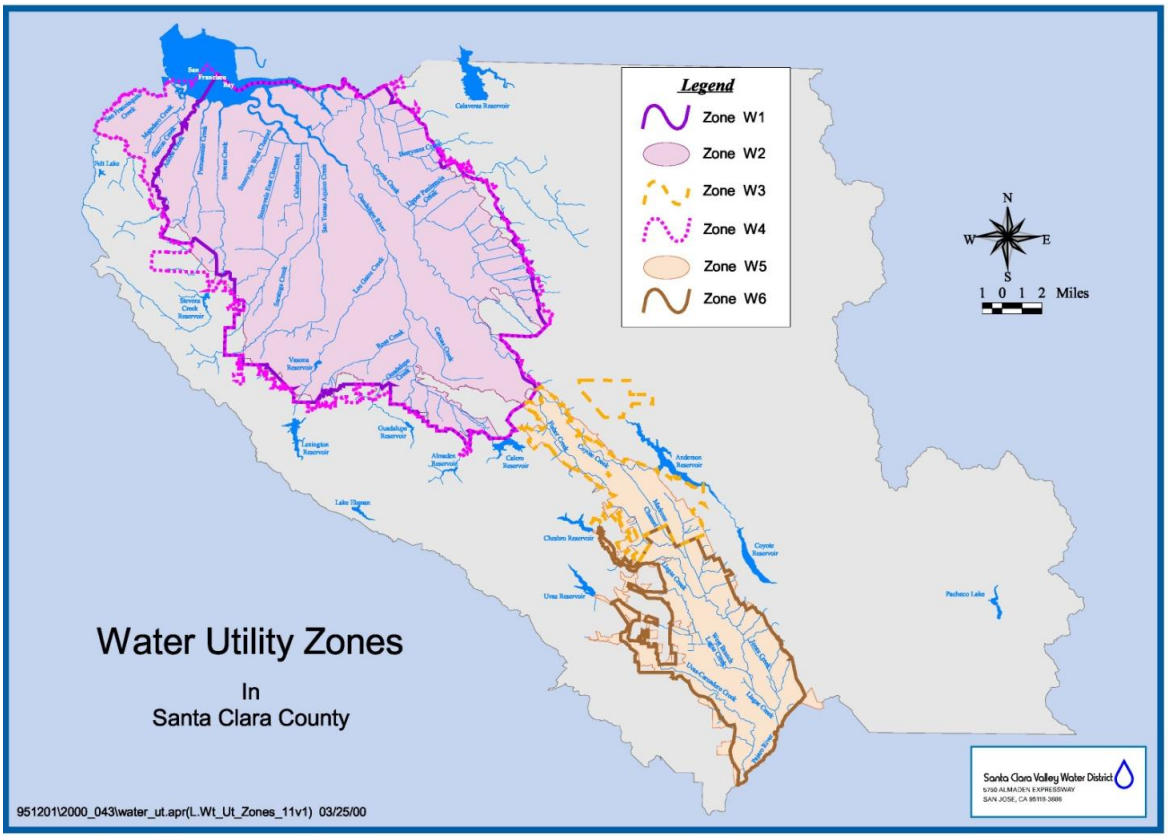
* Capital projects that benefit South County are paid for over the life of the project (typically 30 years) beginning w hen the project is completed

APPENDIX D
ACRONYMS

AF	Acre Feet
AG	Agriculture
BDCP	Bay Delta Conservation Plan
board	Board of Directors
CESA	California Endangered Species Act
CIP	Capital Improvement Program
CVP	Central Valley Project
DWR	Department of Water Resources
ESA	Endangered Species Act
FWS	Fish and Wildlife Service
FY	Fiscal Year
GW	Groundwater
HCP	Habitat Conservation Plan
Llagas Subbasin	Groundwater Subbasin as defined by DWR bulletin 118-2003 and as shown in map of Groundwater Subbasins, area south of Cochrane Road
M&I	Municipal and Industrial
NMFS	National Marine Fisheries Service
North County	Northern Santa Clara County, north of Metcalf Road
RFC	Raftelis Financial Consultants, Inc.
RW	Recycled Water
SCADA	Supervisory Control and Data Acquisition
SFPUC	San Francisco Public Utilities Commission
SJWC	San Jose Water Company
SWP	State Water Project
SW	Surface Water
Santa Clara Subbasin	Groundwater Subbasin as defined by DWR bulletin 118-2003 and as shown in map of Groundwater Subbasins, area north of Cochrane Road and includes Coyote Valley
South County	Southern Santa Clara County, south of Metcalf Road
Three Creeks HCP	Three Creeks Habitat Conservation Plan
TW	Treated Water
Valley HP	Santa Clara Valley Habitat Plan
Zone W-2	Charge zone W-2, as defined by zone boundary in map of Water Utility Zones
Zone W-5	Charge zone W-5, as defined by zone boundary in map of Water Utility Zones
water district	Santa Clara Valley Water District
Water Master Plan	Water Supply and Infrastructure Master Plan

APPENDIX E
MAPS




Legend
Zone W1
Zone W2
Zone W3
Zone W4
Zone W5
Zone W6
N
W
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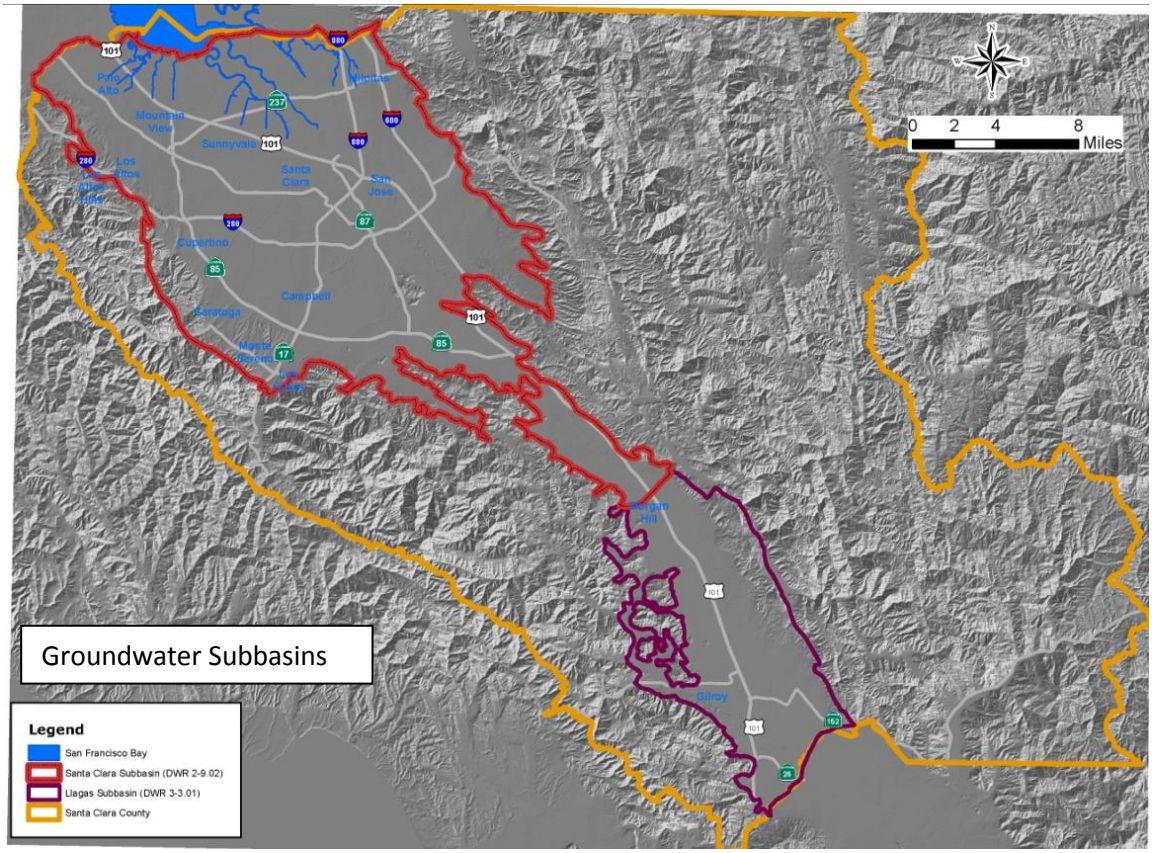
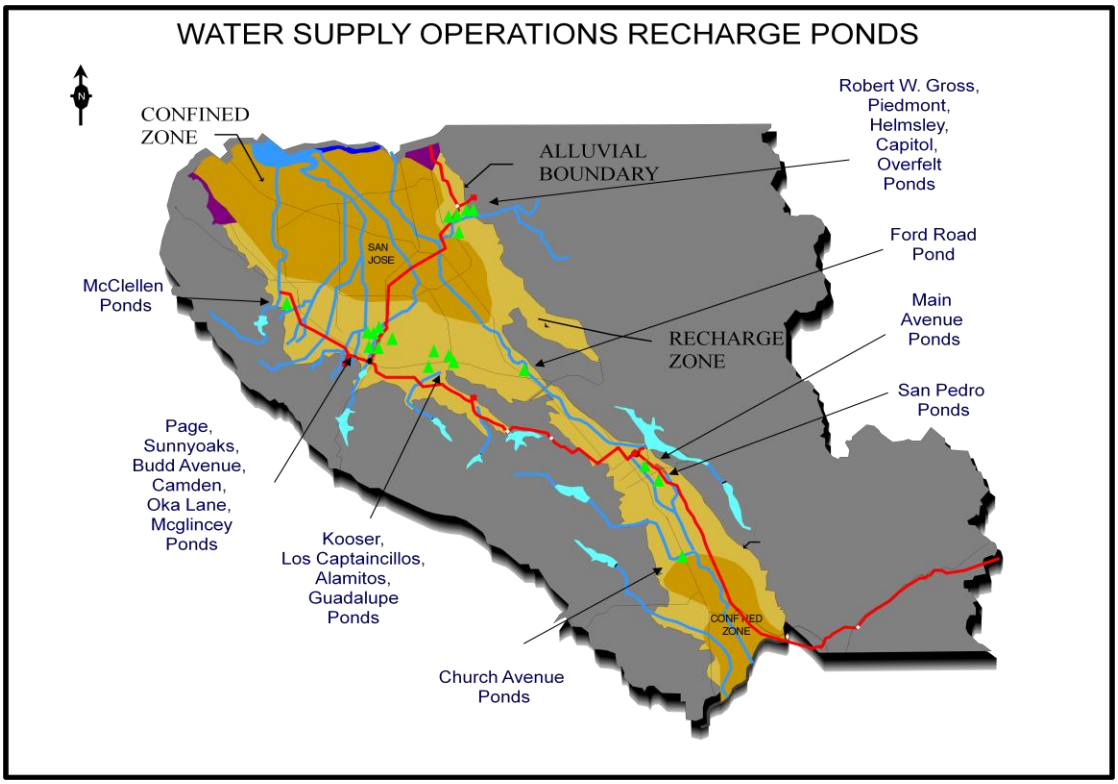
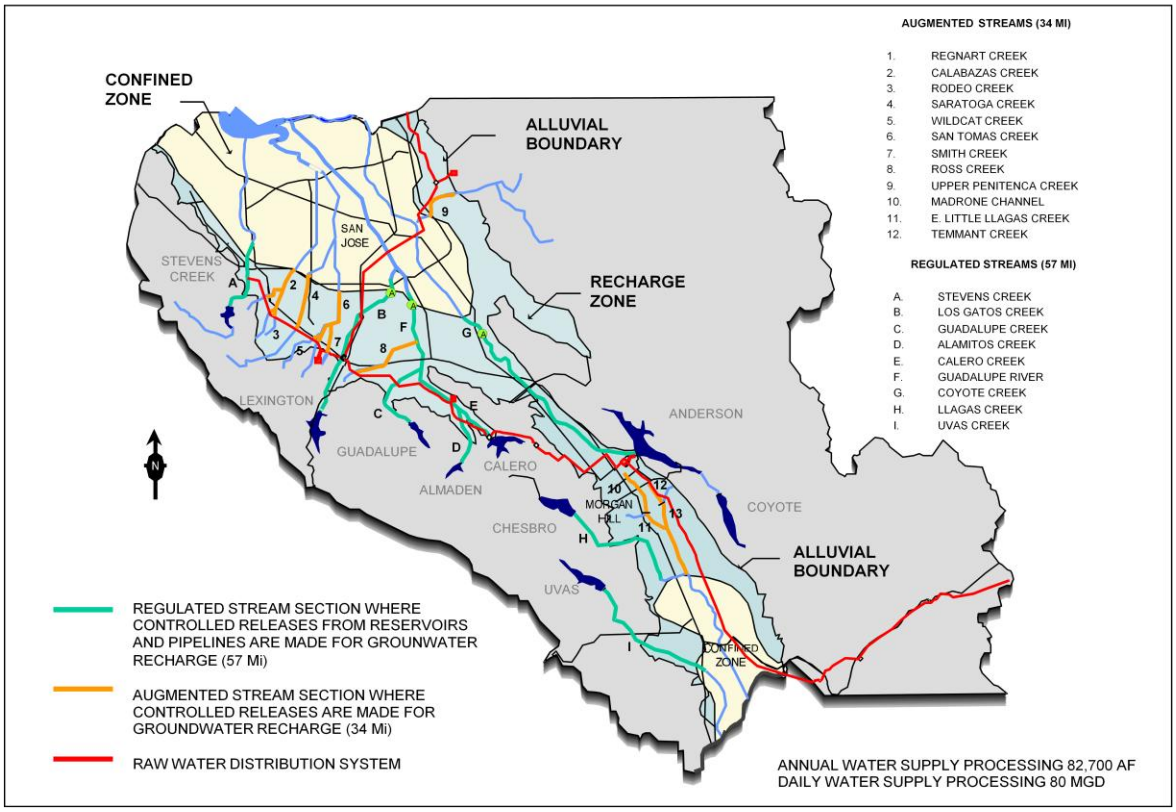
S
1 0 1 2 Miles
Water Utility Zones
In
Santa Clara County
Santa Clara Valley Water District
5750 ALMADEN EXPRESSWAY
SAN JOSE, CA 95118-3686
951201\2000_043\water_ut.apr(L.Wt_Ut_Zones_11v1) 03/25/00


0 2 4 8
Miles
Groundwater Subbasins
Legend
San Francisco Bay
Santa Clara Subbasin (DWR 2-9.02)
Llagas Subbasin (DWR 3-3.01)
Santa Clara County



Water Supply Operations In-Stream Recharge

91 MILES OF REGULATED AND UNREGULATED AUGMENTED STREAMS WHERE FLOW IS MANAGED BY WATER SUPPLY FOR INSTREAM GROUNDWATER RECHARGE



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customers
ZONES OF BENEFIT
RECYCLED WATER
groundwater recharge
multi-year financial analysis
RAW WATER TRANSMISSION AND DISTRIBUTION
safe, clean drinking water
TRANSPARENCY
INFRASTRUCTURE REPAIR AND REHABILITATION
water supply planning groundwater production charge
WATER UTILITY ENTERPRISE FUND
PROTECTION AND AUGMENTATION OF WATER SUPPLIES
CONJUNCTIVE USE MANAGEMENT land subsidence prevention GROUNDWATER MANAGEMENT
debt service coverage ratio IMPORTED WATER RELIABILITY OPEN SPACE CREDIT
CONSERVATION PROGRAMS local surface water supply operations DAM SEISMIC STABILITY
treated water operations RAW WATER TRANSMISSION AND DISTRIBUTION SAFE, CLEAN DRINKING WATER
water retailers COST OF SERVICE local surface water supply operations
WATER UTILITY ENTERPRISE FUND raw water transmission and distribution
GROUNDWATER MANAGEMENT land subsidence prevention INFRASTRUCTURE REPAIR AND REHABILITATION
ZONES OF BENEFIT water supply management
multi-year financial analysis RESOLUTION 99-21 CONJUNCTIVE USE MANAGEMENT
SAFE, CLEAN DRINKING WATER
groundwater production charge DEBT SERVICE COVERAGE RATIO
water retailers CUSTOMERS TREATED WATER OPERATIONS
debt service coverage ratio RECYCLED WATER
PUBLIC HEARINGS

Santa Clara Valley Water District

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